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 110 10 Pennsylvania \$bDept. of Forests and Waters \$bWater Resources Service
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 Pennsylvania, Department of Forests and Waters, Water Resource Service
 246 30 Stream flow records of Pennsylvania \$f1927/28-1932/33, 1936/37-1904/41
 260 [Harrisburg, Pa.] \$bThe Service \$c1922-1941
 300 v. \$bill., charts \$c23 cm.
 310 Annual \$b1932/33-1940/41
 321 Annual \$b1921/22-1926/27
 321 Triennial \$b1928/32
 362 0 1921/22-1940/41
 500 "All previous records may be found in the annual reports of the Water
 Supply Commission of Pennsylvania for the years 1910 to 1921": 1921/22, p. 9
 500 Title alternates between: Stream flow records; and, Stream flow records
 of Pennsylvania.
 500 After 1941 included in the annual water supply reports of the U. S.
 Geological Survey
 500 Prepared 1933/34-1940/41 in cooperation with the United States
 Geological Survey
 515 Report year ends Sept. 30
 515 Records for 1928/1929-1931/1931 combined in one issue
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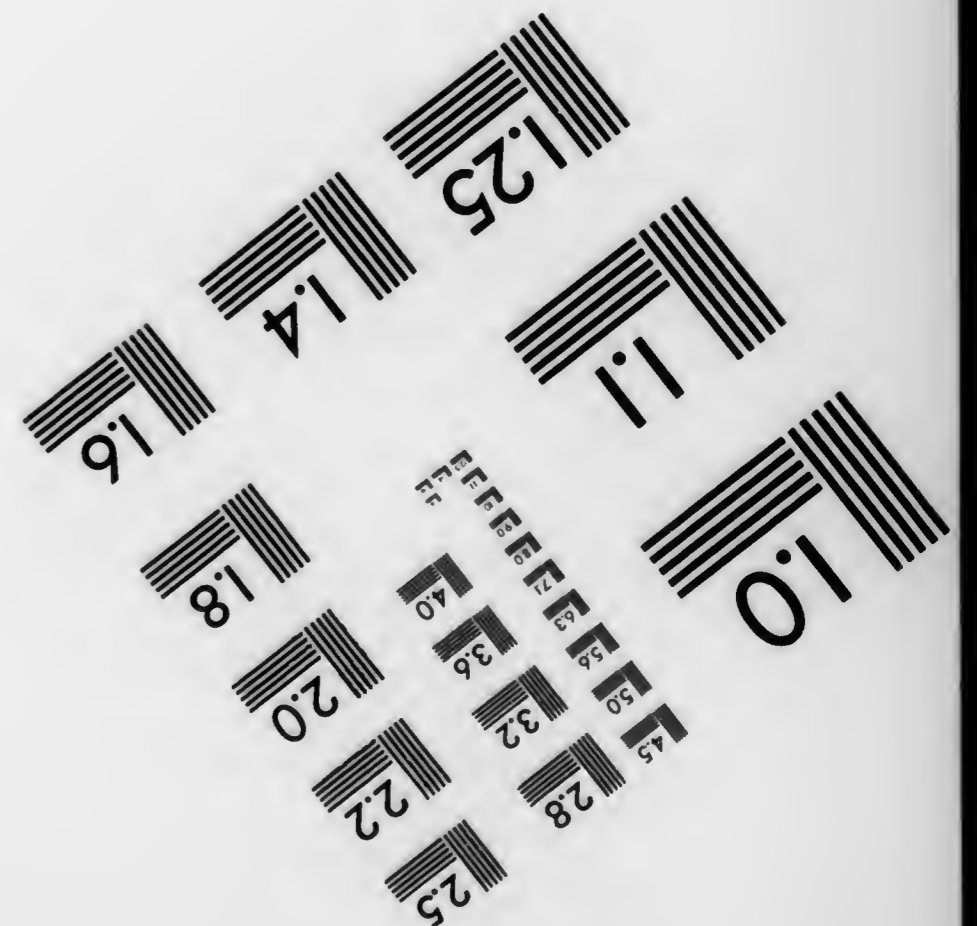
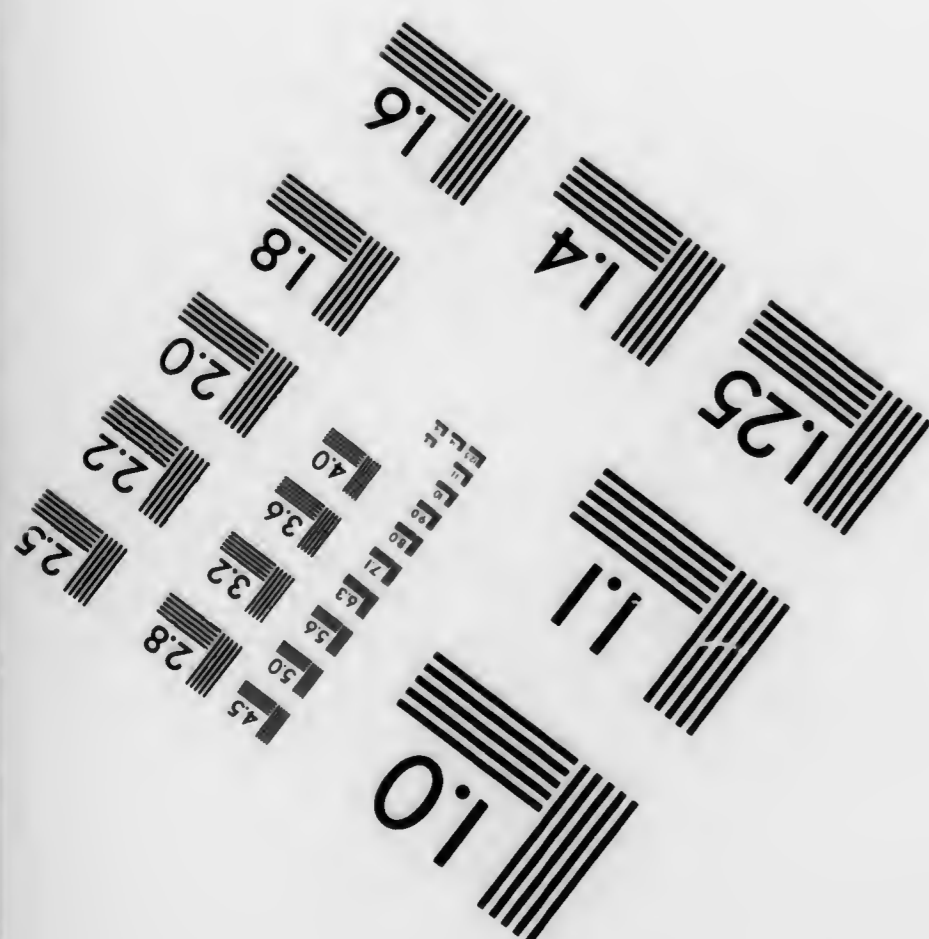
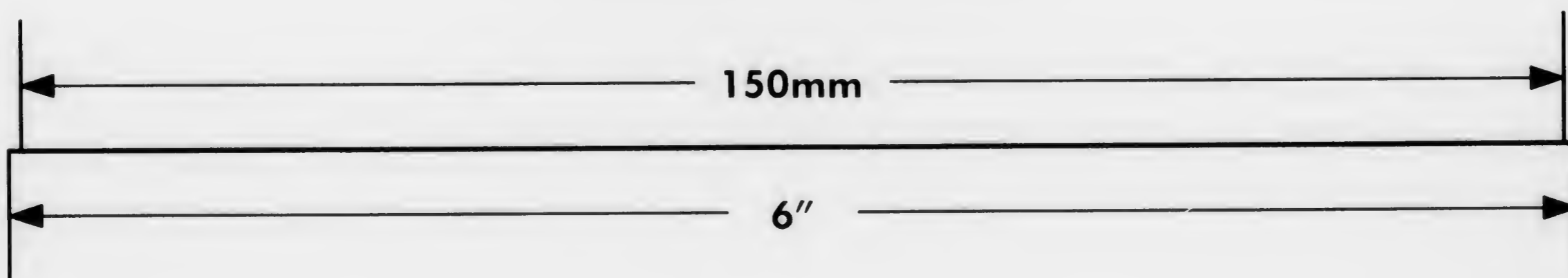
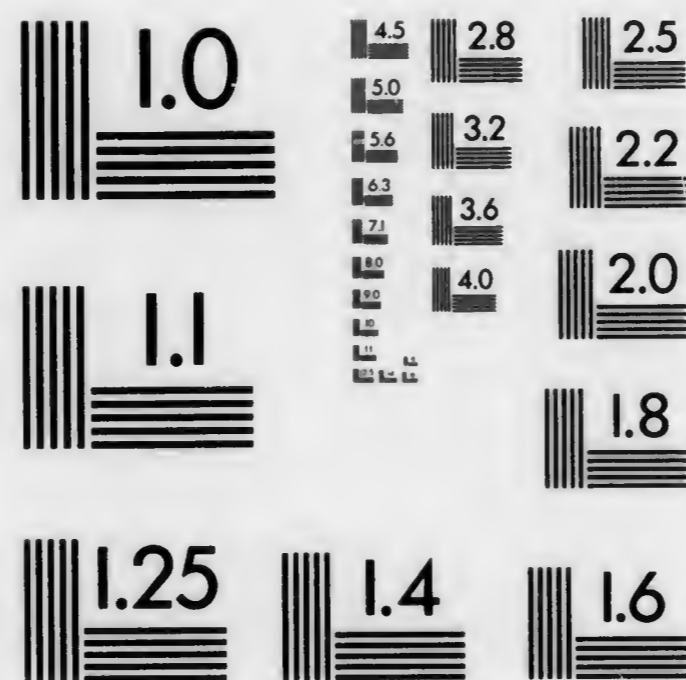
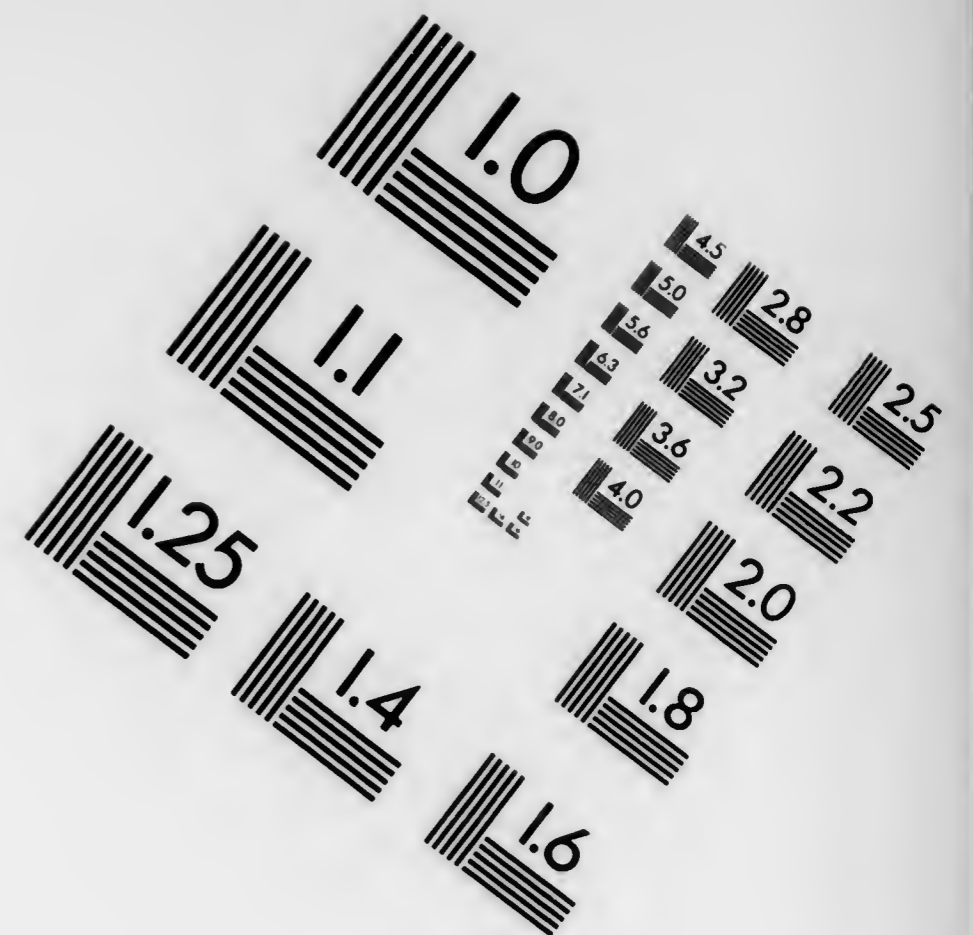
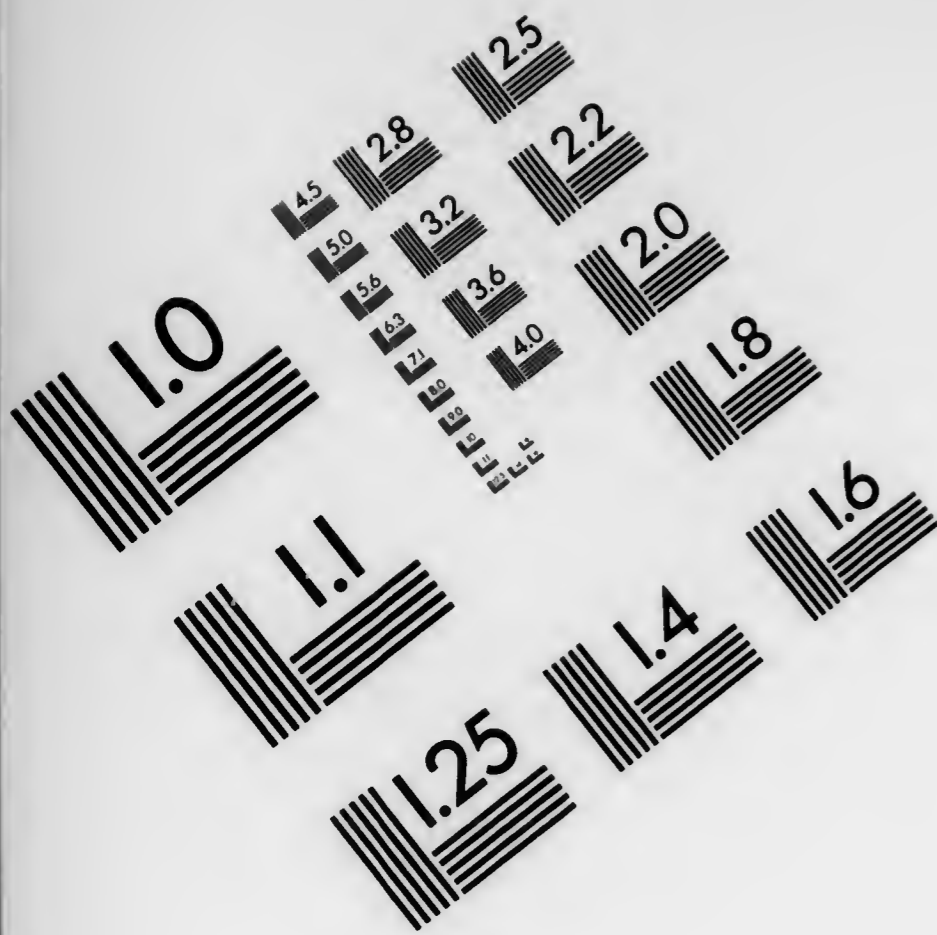
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Title: Stream flow records for the water year 1937 / 1938

Place of Publication: Harrisburg, Pa.

Copyright Date: 1937 / 1938

Master Negative Storage Number: MNS# PSt SNPAG108.1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF FORESTS AND WATERS
DIVISION OF HYDROGRAPHY
HARRISBURG

STREAM FLOW RECORDS
OF
PENNSYLVANIA

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FOR THE YEAR
October 1, 1937 to September 30, 1938

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STREAM FLOW RECORDS

OF

PENNSYLVANIA

for the year

OCTOBER 1, 1937 to SEPTEMBER 30, 1938

STREAM GAGING, FLOOD WARNING, PRECIPITATION, AND GROUND WATER

This report contains records for the year ending September 30, 1938. All stream-flow records previous to and including those for 1911, were published in one volume entitled, "Reports of the Water Supply Commission of Pennsylvania—1910 and 1911." For the years 1912 to 1921, they were published in the annual reports of the Water Supply Commission, with the records for 1917-18 and 1919-20 combined and issued in biennial form. Beginning with 1922, the records have been published by the Department of Forests and Waters, Division of Hydrography, in reports entitled, "Stream Flow Records of Pennsylvania." They were published annually with the exception of those for the 4 years, 1929-32, which were issued in one volume. Prior to 1913 they were compiled and published for calendar years. The 1914 records were tabulated for the 9 months, January to September. Subsequent records have been published for the water years, October 1 to September 30.

Since June 1, 1931, the water resources investigations in Pennsylvania, including the collection of stream-flow data, have been carried on under cooperative agreement with the United States Department of the Interior, Geological Survey.

STREAM GAGING

On October 1, 1937, the beginning of the 1938 water year, 94 stream-gaging stations were in operation. Seven stations were discontinued during the year, 3 were transferred to the United States Department of Agriculture, Weather Bureau and 10 new ones were established; thus making 94 stations in operation at the end of this report period.

The location and date of discontinuance of the stations are as follows:

Shaver Creek near Petersburg, May 11, 1938.

Aughwick Creek near Orbisonia, August 27, 1938.

Lackawaxen River at West Hawley, September 30, 1938.

Cussewago Creek near Meadville, September 30, 1938.

McMichaels Creek at Stroudsburg, September 30, 1938.

Muddy Creek at Castle Fin, September 30, 1938.

Shenango River at Sharon, September 30, 1938.

The location and date of transferred stations are as follows:

North Branch of Susquehanna River at Binghamton, N. Y. August 31, 1938.

Chemung River at Corning, N. Y., August 31, 1938.

West Branch of Susquehanna River at Lock Haven, August 31, 1938.

The location and date of establishment of the new stations during the year are as follows:

Juniata River at Mapleton Depot, December 15, 1937.

Crooked Creek at Idaho, February 27, 1938.

Shenango River at Sharpsville, March 7, 1938.

Tionesta Creek at Lynch, March 12, 1938.

Aughwick Creek near Three Springs, May 20, 1938.

Conemaugh River at Seward, May 28, 1938.

Fishing Creek near Bloomsburg, June 4, 1938.

Little Juniata River at Spruce Creek, June 4, 1938.

Sinnemahoning Creek at Sinnemahoning, July 20, 1938.

Lackawaxen River at Hawley, August 11, 1938.

The Petersburg station was discontinued on account of extensive change in stream channel that made it unsatisfactory for a gaging station.

The stations at Orbisonia, West Hawley, and Sharon were superseded by those established at Three Springs, Hawley, and Sharpsville where there are more satisfactory measuring conditions.

The stations at Meadville and Stroudsburg were discontinued on account of the long-term records that were available and the unsatisfactory measuring conditions that arose at the stations in recent years.

The Castle Fin station, which was established in the interest of the Federal Power Commission, was discontinued as sufficient data had been collected to serve their purpose.

The Binghamton, Corning, and Lock Haven stations, that were maintained primarily in the interests of flood forecasting, were transferred to the Weather Bureau as those interests were taken over directly by that agency.

Two of the discontinued stations, Castle Fin and Sharon, and the 10 newly established ones were supplied with recorder equipment. During the year 3 non-recording stations, Dixon, Shoemakers, and Sunbury, were supplied with recorders; thus making a total of 67 stations in the State provided with wells, shelters, and water-stage recorders at the end of the 1938 water year.

This volume, with but 3 exceptions, contains data for 111 stations, as shown by the tables and map on pages 27-31. The records for Binghamton, Corning, and Lock Haven will be published by the United States Department of Agriculture, Weather Bureau, in their "Daily River Stages at River Gage Stations on the Principle Rivers of the United States."

Descriptions of stations, tables of daily and monthly discharge, summary of run-off in second-feet per square mile, and run-off depth in inches are given for 95 stations that have a complete record for the year and for 12 stations that have a part-year record. The amounts of precipitation on gaging-station drainage areas and the percent run-off to precipitation are given for the 95 stations that are complete for the year. The description of station and daily mean elevation of water surface in the reservoir are given for the Pymatuning Dam station.

Any additional information that may be available and of importance to the engineer making application of these gaging-station records can be obtained upon request to the Department of Forests and Waters, Division of Hydrography, Harrisburg, Pennsylvania.

The outstanding features that were closely related to stream flows during the water year 1937-38 were low maximum discharges during the year, prolonged low-flow periods without the discharges receding to exceptionally low quantities, high ground-water elevations, small amounts of snowfall, and short periods of ice effects.

A general resume of the climatic conditions for Pennsylvania during the water year 1937-38 shows that the temperature was below normal for the 6 months, October to December, May, June, and September, in a total amount of 7.9 degrees, while it was above normal during the other months in a total amount of 18.4 degrees; thus making an excess of 10.5 degrees for the year as a whole. The precipitation was below normal during the 7 months, November to January, March to May, and August, in a total amount of 3.95 inches. It was normal for February and above normal during the remaining 4 months in the amount of 5.41 inches; thus making an excess of 1.46 inches for the year. The snowfall was 20.7 inches below normal during the 6 months, October to March. It was 1.3 inches above normal in April; thus leaving a deficiency of 19.4 inches for the year. This amount was nearly 1.5 inches less than one-half the usual amount of snowfall.

The flow in the principal drainage basins of the State for the year ending September 30, 1938, was 4.1 percent above the mean flow for the 29 years, 1910-38, as determined from the total discharge of the Delaware River at Riegelsville, Susquehanna River at Harrisburg, Allegheny River at Franklin, Kiskiminetas River at Avonmore, and Youghiogheny River at Connellsville, which drain a total area of 39,475 square miles or an area equivalent to 87.5 percent of that of Pennsylvania.

In the Delaware River, the flow for the 1938 water year was 21.4 percent above the mean flow for the 29 years, 1910-38. The flow in the Susquehanna River was 1.2 percent below the average flow for the 29 years; while the combined discharge of the Allegheny, Kiskiminetas, and Youghiogheny Rivers was 3.0 percent above the mean for the same period.

The highest flows during the year in most of the major streams of the State were in October, although the distribution of rainfalls on the major drainage basins was such that the highest flows in their respective streams occurred in several different months.

The streams having their highest flows in October were the Lehigh and Schuylkill Rivers in the Delaware River Basin; the Juniata River in the Susquehanna River Basin; and the Monongahela, Ohio, and Youghiogheny Rivers in the Ohio River Basin. In December the highest flows were in the West Branch of Susquehanna and Susquehanna Rivers in the Susquehanna River Basin, and in the Kiskiminetas River in the Ohio River Basin. The Allegheny River in the Ohio River Basin had its highest flow for the year in February. In September the highest flows were in the Delaware River, and the North Branch of Susquehanna River.

During the year the low flows in the major streams of the Delaware River Basin were in October. In the Susquehanna River Basin the low flows prevailed in September, while in the Ohio River Basin the Monongahela River was at its lowest flow for the year in October, the Ohio River low was in August, and the Allegheny, Kiskiminetas, and Youghiogheny Rivers low flows were in September.

FLOOD WARNING

The flood-warning service was continued in the Susquehanna River Basin throughout the year. There were no unusual stages in the streams; however, many warnings were issued in the interests of river craft, recreation, and construction works.

PRECIPITATION

The precipitation records for the stations maintained by the Department of Forests and Waters, the Weather Bureau, and those of private interests were used in preparing the precipitation map and in determining the amounts of precipitation on gaging-station drainage areas. Prior to 1920 the Water Supply Commission of Pennsylvania published its precipitation records in their annual reports. Since that time, with the exception of stations that are located in close proximity to others, these records may be found in the monthly and annual reports of the United States Department of Agriculture, Weather Bureau. Records for stations not published by the Weather Bureau are available at the office of the Department of Forests and Waters, Division of Hydrography, Harrisburg, Pennsylvania.

The precipitation in October was nearly twice the usual amount. The greatest monthly amount was 10.40 inches at Mount Pocono, Monroe County, while 4.50 inches was recorded in 24 hours at Gordon, Schuylkill County. In June 12.18 inches was recorded during the month at Coatesville, Chester County, and 4.94 inches was recorded in 24 hours at Philadelphia-Point Breeze, Philadelphia County. The greatest monthly amount recorded in July was 11.26 inches at Ardmore, Montgomery County, of which 4.64 inches fell in 24 hours. The precipitation for August was relatively the lowest for any month in the

year. The greatest monthly amount was 8.53 inches at Arendtsville, Adams County, while only 0.59 inch, the lowest record for the year, was observed at Smethport, McKean County; however, 4.44 inches fell in 24 hours at Phoenixville, Chester County. The rainfall in September was excessive in the eastern and northwestern parts of the State. A 3-day rain exceeded 6 inches at several stations in the Delaware River Basin. During the month 10.46 inches was recorded at Mount Pocono, Monroe County, and 4.40 inches fell in 24 hours at Philadelphia-Point Breeze, Philadelphia County.

The average precipitation for the State during the year ending September 30, 1938, as deducted from the records published by the Weather Bureau, was 43.69 inches—an excess of 1.46 inches as compared with the average, which was computed from the 51 years record, 1888-1938.

The yearly totals ranged from a minimum of 29.88 inches at Hollidaysburg, Blair County, to a maximum of 65.57 inches at Mount Pocono, Monroe County. There were 4 months in the year with excesses in precipitation that ranged from 0.51 to 2.61 inches. The amount for February was normal. During the remaining 7 months there were deficiencies in amounts that ranged from 0.02 to 1.33 inches. A comparison of the monthly records with the average monthly amounts for the 51 years 1888 to 1938 as shown in the following table:

PRECIPITATION ON PENNSYLVANIA FOR THE YEAR
ENDING SEPTEMBER 30, 1938

| Month | Precipitation in Inches | | |
|-----------------|-------------------------|---------|-----------|
| | 51-year average | 1937-38 | Departure |
| October | 3.23 | 5.84 | +2.61 |
| November | 2.85 | 2.56 | — .29 |
| December | 3.12 | 2.45 | — .67 |
| January | 3.27 | 2.51 | — .76 |
| February | 2.85 | 2.85 | .00 |
| March | 3.50 | 3.19 | — .31 |
| April | 3.42 | 2.85 | — .57 |
| May | 3.87 | 3.85 | — .02 |
| June | 4.12 | 5.14 | +1.02 |
| July | 4.30 | 4.81 | + .51 |
| August | 4.23 | 2.90 | —1.33 |
| September | 3.47 | 4.74 | +1.27 |
| The Year | 42.23 | 43.69 | +1.46 |

The distribution of precipitation on Pennsylvania during the year ending September 30, 1938, is shown on the map on page 17.

As computed from the precipitation records used by the Division of Hydrography in preparing the precipitation map and in the determination of the percent run-off to precipitation at gaging stations, the average precipitation was about 51.6 inches on the Delaware River Basin, 40.8 inches on the Susquehanna River Basin, and 42.3 inches on the Ohio River Basin.

The monthly and yearly precipitation on Pennsylvania as deducted from the published records of the Weather Bureau, is shown in the following table:

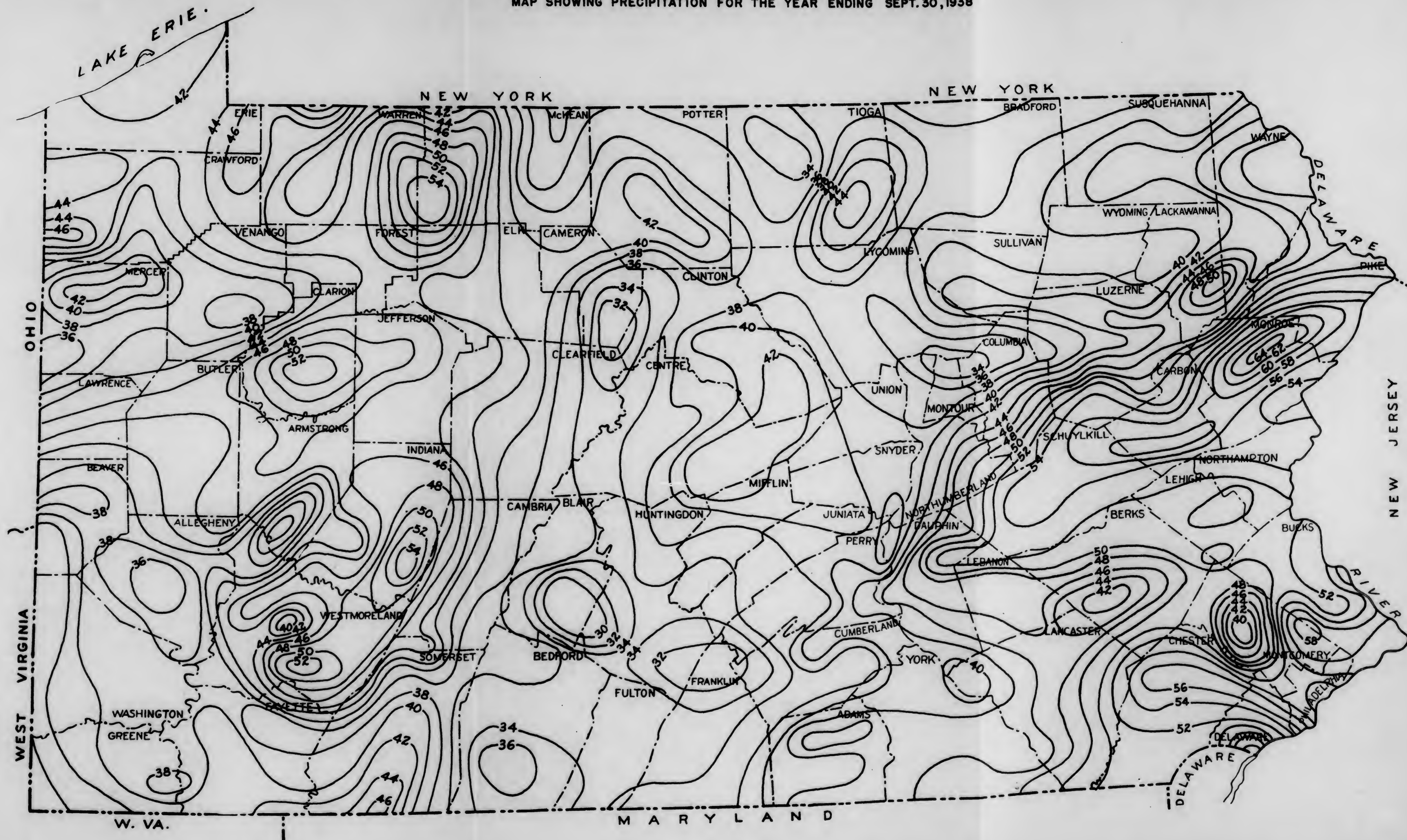
PRECIPITATION ON PENNSYLVANIA FOR THE 51 YEARS ENDING SEPTEMBER 30, 1938.

| Year | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Total |
|---------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 1887-88 | 1.70 | 1.92 | 3.56 | 4.19 | 2.50 | 3.55 | 2.52 | 4.24 | 3.04 | 3.45 | 7.05 | 4.84 | 42.56 |
| 1888-89 | 4.02 | 3.37 | 3.14 | 3.54 | 1.96 | 2.90 | 4.50 | 5.91 | 5.43 | 6.80 | 3.24 | 5.06 | 49.86 |
| 1889-90 | 3.85 | 6.72 | 2.77 | 3.04 | 4.32 | 5.15 | 3.46 | 6.71 | 3.42 | 3.52 | 5.76 | 4.57 | 53.29 |
| 1890-91 | 5.87 | 1.49 | 3.97 | 3.64 | 4.61 | 5.10 | 2.06 | 2.12 | 4.50 | 6.32 | 5.09 | 2.39 | 47.18 |
| 1891-92 | 3.06 | 2.65 | 4.09 | 4.77 | 1.75 | 4.14 | 2.04 | 5.70 | 5.64 | 3.93 | 3.77 | 2.81 | 44.35 |
| 1892-93 | .72 | 4.34 | 1.69 | 2.85 | 5.92 | 2.52 | 4.74 | 5.54 | 3.12 | 3.15 | 4.50 | 2.67 | 41.76 |
| 1893-94 | 3.26 | 2.93 | 3.06 | 2.29 | 3.53 | 1.63 | 3.62 | 8.88 | 2.57 | 2.32 | 1.84 | 6.30 | 42.23 |
| 1894-95 | 4.26 | 2.50 | 3.95 | 4.17 | 1.22 | 2.31 | 3.76 | 2.68 | 3.50 | 3.24 | 3.23 | 1.71 | 36.53 |
| 1895-96 | 1.99 | 2.48 | 3.22 | 1.43 | 4.90 | 4.51 | 1.75 | 2.85 | 4.64 | 6.89 | 2.22 | 4.62 | 41.70 |
| 1896-97 | 3.19 | 3.55 | 1.20 | 2.15 | 3.28 | 3.22 | 3.30 | 5.24 | 3.38 | 6.26 | 3.17 | 2.18 | 40.12 |
| 1897-98 | 1.32 | 5.28 | 3.96 | 4.25 | 2.23 | 4.31 | 2.98 | 5.11 | 2.79 | 3.36 | 6.00 | 1.70 | 43.83 |
| 1898-99 | 5.20 | 4.03 | 2.98 | 3.06 | 4.06 | 4.87 | 1.76 | 3.82 | 3.51 | 3.91 | 4.01 | 4.70 | 45.89 |
| 1899-00 | 1.55 | 2.66 | 3.04 | 2.64 | 4.22 | 3.61 | 1.57 | 2.79 | 3.60 | 4.86 | 3.33 | 1.77 | 35.64 |
| 1900-01 | 2.74 | 4.10 | 2.08 | 2.22 | .96 | 4.14 | 5.41 | 5.56 | 3.47 | 3.88 | 6.81 | 3.39 | 44.76 |
| 1901-02 | 1.23 | 2.56 | 5.91 | 2.80 | 3.99 | 3.98 | 3.56 | 1.96 | 5.97 | 6.04 | 2.62 | 4.66 | 45.28 |
| 1902-03 | 4.64 | 1.53 | 5.54 | 3.31 | 4.49 | 4.52 | 3.53 | 1.67 | 6.53 | 5.36 | 5.29 | 2.09 | 48.50 |
| 1903-04 | 4.64 | 2.18 | 2.66 | 3.55 | 2.41 | 4.29 | 3.45 | 3.78 | 4.06 | 4.68 | 4.36 | 3.37 | 43.43 |
| 1904-05 | 2.87 | 1.14 | 2.48 | 3.70 | 1.70 | 3.86 | 2.84 | 2.59 | 4.39 | 4.67 | 4.71 | 3.41 | 39.56 |
| 1905-06 | 4.23 | 2.47 | 3.57 | 2.53 | 1.70 | 4.46 | 3.13 | 3.23 | 5.43 | 4.31 | 5.62 | 2.46 | 43.14 |
| 1906-07 | 4.46 | 1.48 | 3.97 | 4.36 | 1.91 | 4.26 | 2.64 | 3.08 | 4.99 | 3.84 | 2.94 | 6.37 | 44.30 |
| 1907-08 | 3.16 | 3.60 | 4.30 | 2.68 | 4.65 | 4.76 | 3.51 | 6.28 | 2.36 | 4.81 | 3.22 | 1.60 | 44.93 |
| 1908-09 | 1.95 | .90 | 2.86 | 2.92 | 4.84 | 3.07 | 5.39 | 2.90 | 4.48 | 2.14 | 2.31 | 2.27 | 36.03 |
| 1909-10 | 2.27 | 1.40 | 3.39 | 5.55 | 3.59 | .56 | 5.07 | 3.38 | 4.31 | 2.42 | 2.61 | 4.49 | 39.04 |
| 1910-11 | 1.91 | 2.45 | 2.65 | 3.54 | 2.27 | 2.57 | 3.79 | 1.97 | 4.71 | 2.81 | 7.63 | 5.29 | 41.59 |
| 1911-12 | 4.83 | 2.84 | 3.27 | 1.92 | 2.20 | 5.06 | 4.39 | 3.15 | 3.36 | 5.29 | 5.02 | 5.57 | 46.89 |
| 1912-13 | 2.74 | 2.17 | 3.27 | 4.95 | 1.84 | 5.27 | 3.82 | 3.86 | 2.26 | 4.16 | 2.69 | 3.28 | 40.31 |
| 1913-14 | 5.44 | 3.05 | 2.63 | 3.37 | 2.78 | 2.61 | 4.06 | 3.34 | 3.71 | 4.19 | 3.85 | .99 | 40.62 |
| 1914-15 | 2.35 | 1.76 | 4.63 | 5.56 | 3.90 | 1.28 | 1.92 | 4.16 | 4.00 | 5.28 | 6.71 | 2.56 | 44.11 |
| 1915-16 | 2.65 | 2.18 | 4.06 | 2.42 | 3.08 | 4.12 | 3.65 | 3.19 | 6.14 | 4.45 | 2.57 | 3.77 | 42.28 |
| 1916-17 | 2.25 | 2.27 | 3.07 | 3.60 | 1.46 | 3.68 | 2.08 | 3.39 | 5.38 | 4.33 | 6.09 | 2.31 | 40.51 |
| 1917-18 | 6.38 | .63 | 1.78 | 3.51 | 2.46 | 2.34 | 4.53 | 5.04 | 3.46 | 3.06 | 4.12 | 3.97 | 41.27 |
| 1918-19 | 3.17 | 2.03 | 3.38 | 2.53 | 2.23 | 3.57 | 2.70 | 5.80 | 3.90 | 5.90 | 5.43 | 2.07 | 42.71 |
| 1919-20 | 4.77 | 5.35 | 2.61 | 2.47 | 2.44 | 2.83 | 4.39 | 2.02 | 4.97 | 4.37 | 4.66 | 3.99 | 44.87 |
| 1920-21 | 1.67 | 3.54 | 3.28 | 2.58 | 2.59 | 3.33 | 3.11 | 3.93 | 3.12 | 4.13 | 3.83 | 4.68 | 39.79 |
| 1921-22 | 2.16 | 5.75 | 2.59 | 2.26 | 1.99 | 4.37 | 3.17 | 3.21 | 5.11 | 3.68 | 3.14 | 1.48 | 38.91 |
| 1922-23 | 2.51 | 1.21 | 2.75 | 4.26 | 2.16 | 2.49 | 2.94 | 3.50 | 2.73 | 4.24 | 3.10 | 3.55 | 35.44 |
| 1923-24 | 2.38 | 2.83 | 4.99 | 4.34 | 2.94 | 2.83 | 4.15 | 5.71 | 5.57 | 3.42 | 3.78 | 6.44 | 49.38 |
| 1924-25 | .28 | 1.54 | 2.13 | 3.53 | 2.16 | 2.56 | 2.32 | 3.49 | 3.04 | 5.57 | 2.28 | 2.80 | 31.70 |
| 1925-26 | 4.83 | 3.56 | 1.72 | 2.80 | 4.06 | 1.91 | 2.03 | 1.78 | 3.63 | 3.82 | 5.69 | 5.81 | 41.64 |
| 1926-27 | 4.51 | 4.49 | 2.58 | 2.90 | 3.48 | 2.61 | 3.52 | 4.14 | 3.72 | 4.97 | 4.12 | 2.08 | 43.12 |
| 1927-28 | 6.40 | 4.95 | 4.41 | 2.08 | 3.42 | 3.24 | 5.50 | 2.23 | 7.96 | 5.44 | 4.60 | 2.33 | 52.56 |
| 1928-29 | 1.78 | 2.32 | 1.16 | 3.37 | 2.87 | 2.69 | 6.12 | 4.81 | 3.56 | 2.81 | 2.52 | 3.71 | 37.72 |
| 1929-30 | 5.59 | 3.39 | 2.77 | 2.25 | 2.69 | 3.03 | 2.71 | 3.03 | 4.20 | 2.23 | 1.47 | 2.45 | 35.81 |
| 1930-31 | .99 | 1.48 | 2.29 | 1.46 | 1.98 | 2.96 | 3.33 | 5.28 | 3.71 | 5.28 | 4.01 | 3.15 | 35.92 |
| 1931-32 | 1.83 | 1.52 | 2.85 | 4.51 | 1.64 | 4.41 | 1.71 | 3.69 | 3.15 | 3.39 | 2.82 | 1.45 | 32.97 |
| 1932-33 | 5.31 | 4.75 | 2.19 | 2.00 | 2.30 | 5.33 | 4.49 | 5.86 | 2.58 | 4.26 | 7.61 | 4.66 | 51.34 |
| 1933-34 | 1.91 | 1.55 | 2.88 | 2.54 | 1.31 | 2.96 | 3.06 | 2.51 | 3.64 | 4.01 | 4.94 | 6.58 | 37.89 |
| 1934-35 | 1.46 | 3.61 | 2.55 | 3.08 | 2.67 | 2.62 | 2.56 | 3.00 | 4.22 | 5.63 | 3.91 | 3.51 | 38.82 |
| 1935-36 | 2.77 | 3.84 | 2.62 | 4.21 | 2.33 | 6.84 | 3.01 | 2.09 | 3.80 | 2.88 | 4.96 | 2.17 | 41.52 |
| 1936-37 | 3.69 | 2.40 | 4.19 | 6.36 | 2.32 | 2.00 | 5.53 | 3.39 | 4.37 | 4.47 | 5.43 | 1.90 | 46.06 |
| 1937-38 | 5.84 | 2.56 | 2.45 | 2.51 | 2.85 | 3.19 | 2.85 | 3.85 | 5.14 | 4.81 | 2.90 | 4.74 | 43.69 |
| Mean | 3.23 | 2.85 | 3.12 | 3.27 | 2.85 | 3.50 | 3.42 | 3.87 | 4.12 | 4.30 | 4.23 | 3.47 | 42.23 |

DEPARTMENT OF FORESTS AND WATERS
DIVISION OF HYDROGRAPHY
MAP SHOWING PRECIPITATION FOR THE YEAR ENDING SEPT. 30, 1938

PRECIPITATION

17



GROUND WATER

A systematic survey of the ground-water resources of Pennsylvania was begun in 1925 by the United States Department of the Interior, Geological Survey, in cooperation with the Pennsylvania Topographic and Geological Survey. In that year 13 counties and parts of 2 others in the southeastern part of Pennsylvania were studied and in 1926 investigations were made in 6 counties in the southwestern part of the State, but no observation wells were established in either area.

No field work was done in 1927. In 1928 and 1929 twelve counties in the northwestern section of Pennsylvania were studied and one dug well in Clarion County was selected for monthly observations by a local observer. This was the first observation well established in the State by the Geological Survey and its cooperating agency. In 1930 twelve counties and parts of two others in the northeastern part of Pennsylvania were investigated and one unused dug well in Susquehanna County was selected for monthly observations by a local observer.

As a result of the growing interest in ground-water levels occasioned by the drought of 1930, the areal ground-water survey in Pennsylvania was temporarily set aside in 1931 and a cooperative State-wide program of well observation was begun. Through arrangements with the Pennsylvania Department of Forests and Waters, Division of Hydrography, it was planned to locate observation wells near stream-gaging stations, insofar as possible, in order that measurements might be made by the local stream observers in conjunction with their regular duties.

In the fall of 1931 all of the stream-gaging stations were visited and 31 of the stations, unused wells, mostly dug, were selected for observations. In addition 6 similar wells, including the 2 started in 1928 and 1930, were measured by independent local observers, thus making a total of 37 in operation.

No field work was done in 1932, but in 1933-35 the areal ground-water surveys of the State were completed. The use of several wells was unavoidably lost at different times because their owners had filled the wells or reclaimed them for use. However, a few new wells were added from time to time as opportunity permitted and 32 wells were being observed in 1935. Weekly water-level measurements in 5 new wells were begun in July and August 1936, making a total of 37 wells that were under periodic observation during part of the year. Weekly observations were made at 33 wells in 1937 and at 30 wells in 1938.

In order that the weekly water levels in all wells might be comparable and averaged, the arbitrary datum for each well was assumed to be 10 feet below the observed water level on November 28, 1931, when the ground water was at about its annual minimum height. For each well added since that date, a datum was assumed that gave the well

at the beginning of its record, a stage equal to the average stage of all other wells in the State on the same date. Thus, all water levels are exactly comparable for any well and they are approximately comparable with the water levels for other wells.

The following table shows the average ground-water level, referred to arbitrary datum, for the 7 years ending September 30, 1938, and for the period of record; the annual departure from the mean for the period of record; and the maximum and minimum recorded for each year and for the period of record.

GROUND-WATER LEVELS, IN FEET, AT OBSERVATION WELLS IN PENNSYLVANIA FOR THE 7 YEARS ENDING SEPTEMBER 30, 1938.

| Year | Average | Departure | Maximum | Minimum |
|---------|---------|-----------|---------------------|--------------------------------|
| 1931-32 | 12.18* | -0.72 | 14.95 Apr. 2 | 9.73 Sept. 24 and Oct. 1 |
| 1932-33 | 13.15 | + .25 | 15.40 Apr. 15 | 10.71 Oct. 8 and 15 |
| 1933-34 | 12.43 | - .47 | 14.62 Apr. 14 | 10.77 Sept. 1 |
| 1934-35 | 13.02 | + .12 | 15.04 Mar. 23 | 10.79 Sept. 28 |
| 1935-36 | 11.56 | - .34 | 17.87 Mar. 21 | 10.00 Sept. 26 |
| 1936-37 | 13.37 | + .47 | 16.65 May 1 | 10.10 Oct. 3 |
| 1937-38 | 13.50 | + .60 | 16.20 Mar. 19 | 10.76 Oct. 9 and Sept. 10 |
| Period | 12.90 | ----- | 17.87 Mar. 21, 1936 | 9.73 Sept. 24 and Oct. 1, 1932 |

* Average for 45 weeks, Nov. 28, 1931, to Oct. 1, 1932.

It is interesting to note; that in 1936 excessive rains and melting snow in March enhanced ground-water elevations to their highest levels during the period of record, while in September of the same year they had receded to their second lowest level during the 7 years of record.

The ground-water levels for Pennsylvania, including the locations and descriptions of observation wells, are published in detail by the Geological Survey in their Water Supply Papers entitled, "Water Levels and Artesian Pressure in Observation Wells in United States."

STREAM FLOW RECORDS

DEFINITIONS OF TERMS

The volume of water flowing in a stream—the "run-off" or "discharge"—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-feet, gallons per minute, and discharge in second-feet per square mile, and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, and run-off in inches. They may be defined as follows:

"Second-foot" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which others are computed.

"Second-feet per square mile" is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

"Run-off in inches" is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

An "acre-foot" is equivalent to 43,560 cubic feet and is the quantity required to cover an acre to the depth of 1 foot. The term is commonly used in connection with storage and irrigation.

The following terms not in common use are here defined:

"Stage-discharge relation"—an abbreviation for the term "relation of gage height to discharge."

"Control"—a term used to designate the natural section or stretch of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

CONVERSION TABLES

The following tables afford a ready means of conversion between the terms in common use in hydraulic computations.

Discharge in second-feet per square mile into run-off in depth in inches

| Discharge (second-feet per square mile) | Run-off (depth in inches) | | | | |
|--------------------------------------------|---------------------------|---------|---------|---------|---------|
| | 1 day | 28 days | 29 days | 30 days | 31 days |
| 1 | 0.06719 | 1.041 | 1.079 | 1.116 | 1.153 |
| 2 | .07438 | 2.063 | 2.157 | 2.251 | 2.306 |
| 3 | .11157 | 3.124 | 3.226 | 3.327 | 3.459 |
| 4 | .14876 | 4.165 | 4.314 | 4.463 | 4.612 |
| 5 | .18595 | 5.207 | 5.398 | 5.578 | 5.794 |
| 6 | .22314 | 6.248 | 6.471 | 6.694 | 6.917 |
| 7 | .26033 | 7.289 | 7.550 | 7.810 | 8.070 |
| 8 | .29752 | 8.331 | 8.628 | 8.926 | 9.223 |
| 9 | .33471 | 9.372 | 9.707 | 10.041 | 10.376 |

Note—For part of a month multiply the run-off for 1 day by the number of days.

Discharge in second-feet into run-off in acre-feet

| Discharge (second-feet) | Run-off (acre-feet) | | | | |
|----------------------------|---------------------|---------|---------|---------|---------|
| | 1 day | 28 days | 29 days | 30 days | 31 days |
| 1 | 1.983 | 55.54 | 57.52 | 59.50 | 61.49 |
| 2 | 3.967 | 111.1 | 115.0 | 119.0 | 123.0 |
| 3 | 5.950 | 166.6 | 172.6 | 178.5 | 184.5 |
| 4 | 7.934 | 222.1 | 230.1 | 238.0 | 246.0 |
| 5 | 9.917 | 277.7 | 287.6 | 297.5 | 307.4 |
| 6 | 11.90 | 333.2 | 345.1 | 357.0 | 368.9 |
| 7 | 13.88 | 388.8 | 402.6 | 416.5 | 430.4 |
| 8 | 15.87 | 444.3 | 460.3 | 476.0 | 491.9 |
| 9 | 17.85 | 499.8 | 517.7 | 535.5 | 553.4 |

Note—For part of a month multiply the run-off for 1 day by the number of days.

Discharge in second-feet into run-off in millions of cubic feet

| Discharge (second-feet) | Run-off (millions of cubic feet) | | | | |
|----------------------------|----------------------------------|---------|---------|---------|---------|
| | 1 day | 28 days | 29 days | 30 days | 31 days |
| 1 | 0.0664 | 2.419 | 2.506 | 2.592 | 2.678 |
| 2 | .1728 | 4.838 | 5.012 | 5.184 | 5.356 |
| 3 | .2692 | 7.257 | 7.518 | 7.776 | 8.034 |
| 4 | .3456 | 9.676 | 10.08 | 10.47 | 10.87 |
| 5 | .4220 | 12.10 | 12.53 | 12.96 | 13.39 |
| 6 | .5184 | 14.51 | 15.04 | 15.55 | 16.07 |
| 7 | .6048 | 16.93 | 17.54 | 18.14 | 18.75 |
| 8 | .6912 | 19.35 | 20.05 | 20.74 | 21.43 |
| 9 | .7776 | 21.77 | 22.55 | 23.33 | 24.10 |

Note—For part of a month multiply the run-off for 1 day by the number of days.

Discharge in second-feet into run-off in millions of gallons

| Discharge (second-feet) | Run-off (millions of gallons) | | | | |
|----------------------------|-------------------------------|---------|---------|---------|---------|
| | 1 day | 28 days | 29 days | 30 days | 31 days |
| 1 | 0.6463 | 18.10 | 18.74 | 19.39 | 20.04 |
| 2 | 1.293 | 36.20 | 37.48 | 38.78 | 40.08 |
| 3 | 1.939 | 54.30 | 56.22 | 58.17 | 60.12 |
| 4 | 2.586 | 72.40 | 74.96 | 77.56 | 80.16 |
| 5 | 3.232 | 90.50 | 93.70 | 96.95 | 100.2 |
| 6 | 3.879 | 108.6 | 112.4 | 116.3 | 120.2 |
| 7 | 4.524 | 126.7 | 131.2 | 135.7 | 140.3 |
| 8 | 5.170 | 144.8 | 149.9 | 155.1 | 160.3 |
| 9 | 5.817 | 162.9 | 168.7 | 174.5 | 180.4 |

Note—For part of a month multiply the run-off for 1 day by the number of days.

Velocity in feet per second into velocity in miles per hour

(1 foot per second=0.681818 mile per hour, or very nearly two-thirds mile per hour; 1 mile per hour=1.46666 feet per second. In computing the table the values 0.68182 and 1.4667 were used).

| Feet per second (units) | Miles per hour for tenths of foot per second | | | | | | | | | |
|----------------------------|----------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 0.000 | 0.068 | 0.136 | 0.205 | 0.273 | 0.341 | 0.409 | 0.477 | 0.545 | 0.614 |
| 1 | .682 | .750 | .818 | .886 | .955 | 1.02 | 1.09 | 1.16 | 1.23 | 1.30 |
| 2 | 1.36 | 1.43 | 1.50 | 1.57 | 1.64 | 1.70 | 1.77 | 1.84 | 1.91 | 1.98 |
| 3 | 2.05 | 2.11 | 2.18 | 2.25 | 2.32 | 2.39 | 2.45 | 2.52 | 2.59 | 2.66 |
| 4 | 2.73 | 2.80 | 2.86 | 2.93 | 3.00 | 3.07 | 3.14 | 3.20 | 3.27 | 3.34 |
| 5 | 3.41 | 3.48 | 3.55 | 3.61 | 3.68 | 3.75 | 3.82 | 3.89 | 3.96 | 4.02 |
| 6 | 4.09 | 4.16 | 4.23 | 4.30 | 4.36 | 4.43 | 4.50 | 4.57 | 4.64 | 4.70 |
| 7 | 4.77 | 4.84 | 4.91 | 4.98 | 5.05 | 5.11 | 5.18 | 5.25 | 5.32 | 5.39 |
| 8 | 5.45 | 5.52 | 5.59 | 5.66 | 5.73 | 5.80 | 5.86 | 5.93 | 6.00 | 6.07 |
| 9 | 6.14 | 6.20 | 6.27 | 6.34 | 6.41 | 6.48 | 6.55 | 6.61 | 6.68 | 6.75 |

CONVENIENT EQUIVALENTS

LENGTH

1 inch=1/12 foot=0.027778 yard=0.000015783 mile=2.54 centimeters.
 1 foot=12 inches=1/3 yard=0.00018939 mile=0.3048 meter.
 1 yard=36 inches=3 feet=0.00056818 mile=0.9144 meter.
 1 mile=63,360 inches=5,280 feet=1,760 yards=1.60935 kilometers.
 1 meter=100 centimeters=0.001 kilometer=39.37 inches=3.2808 feet=1.0936 yards=0.00062137 mile.

SURFACE

1 square inch=0.000645 square foot=0.0007716 square yard=0.0000001594 acre=0.000000002491 square mile=6.46163 square centimeters.
 1 square foot=144 square inches=1/9 square yard=0.000022957 acre=0.00000003587 square mile=0.002908 square meter.
 1 square yard=1,296 square inches=9 square feet=0.0002066 acre=0.0000003228 square mile=0.83613 square meter.
 1 acre=6,272,640 square inches=43,560 square feet=4,840 square yards=0.0015625 square mile=208.71 feet square=0.404687 hectare.
 1 square mile=4,014,489,600 square inches=27,878,400 square feet=3,097,600 square yards=640 acres=259 hectares.
 1 square meter=10,000 square centimeters=0.0001 hectare=0.000001 square kilometer=1,550 square inches=10.7639 square feet=1.19598 square yards=0.0002471 acre=0.0000003861 square mile.

VOLUME

1 cubic inch=0.004329 United States gallon=0.0005787 cubic foot=16.3872 cubic centimeters.
 1 United States gallon=231 cubic inches=0.13368 cubic foot=0.0000807 acre foot=3.78543 liters.
 1 cubic foot=1,728 cubic inches=7.4805 United States gallons=0.037037 cubic yard=0.000022957 acre-foot=28.317 liters.
 1 cubic yard=46,656 cubic inches=27 cubic feet=0.00051983 acre-foot=0.76455 cubic meter.
 1 acre-foot=325,851 United States gallons=43,560 cubic feet=1,613.533 cubic yards=1,233.49 cubic meters.
 1 cubic meter, stere, or kiloliter=1,000,000 cubic centimeters=1,000 liters=61,023.4 cubic inches=264.17 United States gallons=35.3145 cubic feet=1.30794 cubic yards=0.000810708 acre-foot.

HYDRAULICS

1 United States gallon of water weighs 8.34 pounds avoirdupois.
 1 cubic foot of water weighs 62.5 pounds avoirdupois.
 1 second-foot=7.48 United States gallons per second=448.8 United States gallons per minute
 =26,929.9 United States gallons per hour=646,317 United States gallons per day.
 1 second-foot=60 cubic feet per minute=3,600 cubic feet per hour=86,400 cubic feet per day
 =31,686,000 cubic feet per year=0.000214 cubic mile per year.
 1 second-foot=0.9917 acre-inch per hour=1.983471 acre-feet per day=723.966042 acre-feet
 per year.
 1 second-foot=0.028317 cubic meter per second=1.699 cubic meters per minute=101.941 cubic
 meters per hour=2,446.58 cubic meters per day.
 1 second-foot for 1 year (365 days) will cover 1 square mile 1.1312 feet or 13.5744 inches deep.
 1 second-foot falling 10 feet=1.135 horsepower.
 100 United States gallons per minute=0.223 second-foot=0.442 acre-foot in one day.
 1 million gallons per day=1.55 second-feet=3.07 acre-feet per day=2.629 cubic meters per
 minute.
 1 million gallons per month=0.05525 second-feet for one 28-day month=0.05334 second-foot
 for one 29-day month=0.05157 second-foot for one 30-day month=0.04990 sec-
 ond-foot for one 31-day month.
 1,000,000,000 (1 United States billion) cubic feet=11,570 second-feet for one day=413 second-
 feet for one 28-day month=399 second-feet for one 29-day month=386 second-
 feet for one 30-day month=373 second-feet for one 31-day month.
 1 horsepower=1 second-foot falling 8.8 feet.
 1 horsepower=1 second-foot falling 11.0 feet, 80 percent efficiency.
 1 horsepower=5,604,120 foot-gallons per day=550 foot-pounds per second=33,000 foot-
 pounds per minute=1,980,000 foot-pounds per hour=2,545 British thermal units
 per hour=76 kilogrammeters per second=1.27 kilogrammeters per minute=
 746 watts.
 1.3405 horsepower=1 kilowatt.
 1 inch deep on 1 square mile=2,323,200 cubic feet=0.0737 second-foot for 1 year.
 1 foot deep (head of 1 foot)=0.434 pound pressure on 1 square inch.
 1 cubic meter per minute=0.5686 second-foot=4.403 United States gallons per second=
 1.1674 acre-feet per day
 1 foot per second=0.68 mile per hour=1.07 kilometers per hour.
 Acceleration of gravity, $g=32.16$ feet per second.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1937, and ending September 30, 1938. At the beginning of January in most parts of the United States much of the precipitation in the preceding three months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as underground water, and this stored water passes off in the streams during the spring months. At the end of September, on the other hand, the only stored water available for run-off is possibly a small quantity in the ground; therefore, the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a staff or chain gage, or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge.

Rating tables giving the discharge for any stage are computed from the rating curves which are constructed from the discharge measurements. The application of the daily gage height to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is computed.

The data presented for each gaging station covered by this report comprise a description of the station, a table showing the daily discharge of the stream, a table of monthly and yearly discharge and run-off, and a summary table of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation. For stations with insufficient base data to determine the daily discharge, the results of current-meter discharge measurements are published in the table of miscellaneous discharge measurements.

The description of the station gives, in addition to statements regarding location and type of gage, information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded discharges, accuracy of the records, and average discharge for the stations that have a record for ten or more years. The maximum discharge given under "Extremes" represents the crest discharge determined from records of stage by water-stage recorders, or in case of nonrecording gages it is determined from floodmarks or from graphs based on gage readings made once daily or more frequently.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the daily gage height, which may be the mean of two or more readings in the case of a nonrecording gage, or the mean daily gage height obtained from a water-stage recorder graph.

At stations on streams subject to sudden or rapid diurnal fluctuation, the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders, the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by using an instrument known as the discharge integrator, which has a setting to correspond with the rating curve of a station and determines the mean daily discharge from a continuous gage-height graph.

In the table of monthly discharge, the column headed "Maximum" gives the maximum daily discharge and not the discharge when the water surface was at crest height. Likewise, in the column headed "Minimum," the quantity given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow are based computations recorded in the remaining columns, which are defined on page 21.

ACCURACY OF FIELD DATA AND COMPUTED RECORDS

The accuracy of stream-flow data depends primarily (1) on the permanency of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that the records are accurate within 5 per cent; "good" within 10 per cent; "fair" within 15 per cent; and "poor" within 20 per cent or more.

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures showing discharge per square mile and run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area.

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published.

COOPERATION

Financial assistance was rendered by the United States Engineer Office, Pittsburgh, Pa., in the operation and maintenance of the Charleroi, Franklin, Larabee, Parkers Landing, Sugarcreek, Utica, and Wampum gaging stations in the Ohio River Basin. The city of Harrisburg rendered financial assistance in the establishment and operation of the Carsonville, Dauphin, and Manada Gap gaging stations in the Susquehanna River Basin. The stream-flow records for the Delaware River Basin stations at Port Jervis, Belvidere, Riegelsville, and Trenton are furnished by the United States Geological Survey offices at Albany, N. Y., and Trenton, N. J. Records for the Salisbury station in the Ohio River Basin and the Bedford Valley station in the Potomac River Basin are furnished by the United States Geological Survey office at Washington, D. C.

Acknowledgment is due the following agencies for equipment and assistance in the collection of records:

City of Lancaster, Pa., (Lancaster).
 City of Philadelphia, Pa., (Philadelphia).
 City of Wilmington, Del., (Chadds Ford).
 Clarion River Power Co., Johnstown, Pa., (Piney).
 Galtfelter Paper Co., Spring Grove, Pa., (Spring Grove).
 Panther Valley Water Co., Lansford, Pa., (Tamaqua).
 Pennsylvania Edison Co., Altoona, Pa., (Saxton).
 Pennsylvania Power and Light Co., Allentown, Pa., (Wilsonville).
 Philadelphia Electric Co., Philadelphia, Pa., (Castle Fin, Harrisburg, Lancaster, and Manchester).
 Robert O. Hayt, Consulting Engineer, Corning, N. Y., (Loyalsock).
 Safe Harbor Water Power Corp., Baltimore, Md., (Marietta).
 Philadelphia Suburban Water Co., Bryn Mawr, Pa., (Langhorne).

United Engineering and Foundry Co., Vandergrift, Pa., (Vandergrift).

United States Engineer Office, Baltimore, Md., (Dalmatia, Gapsville, Huntingdon, Marklesburg, Millerstown, Penns Creek, Shermansdale, and Wapwallopen).

United States Engineer Office, Philadelphia, Pa., (Bethlehem and Tannery).

United States Weather Bureau, Harrisburg, Pa., (Binghamton, Corning, Harrisburg, Lock Haven, Mapleton Depot, Newport, Renovo, Sunbury, Towanda, Wilkes-Barre, and Williamsport).

West Penn Power Co., Pittsburgh, Pa., (Connellsville).

West Virginia Pulp and Paper Co., Williamsburg, Pa., (Williamsburg).

York Water Co., York, Pa., (York).

The Commonwealth of Pennsylvania is divided into six drainage basins: Delaware, Susquehanna, Potomac, Genesee, Erie, and Ohio. The hydrographic data in the following pages are divided into four groups corresponding to the basins in which the stations are located. There are no gaging stations in the Erie or Genesee Basins. The stations in each basin are shown in the following tables and their locations are indicated on the stream gaging map with reference numbers corresponding to those given in the tables.

GAGING STATIONS IN DELAWARE RIVER BASIN*

| Station No. | Stream | Location |
|-------------|-------------------------------|---------------------|
| 1 | Delaware River | Port Jervis, N. Y. |
| 2 | Delaware River | Belvidere, N. J. |
| 3 | Delaware River | Riegelsville, N. J. |
| 4 | Delaware River | Trenton, N. J. |
| 5 | Lackawaxen River | West Hawley |
| 6 | Lackawaxen River | Hawley |
| 7 | Wallenpaupack Creek | Wilsonville |
| 8 | Bushkill Creek | Shoemakers |
| 9 | McMichaels Creek | Stroudsburg |
| 10 | Lehigh River | Tannery |
| 11 | Lehigh River | Bethlehem |
| 12 | Tohickon Creek | Pipersville |
| 13 | Neshaminy Creek | Langhorne |
| 14 | Schuylkill River | Pottstown |
| 15 | Schuylkill River | Philadelphia |
| 16 | Little Schuylkill River | Tamaqua |
| 17 | Perkiomen Creek | Graters Ford |
| 18 | Ridley Creek | Moylan |
| 19 | Chester Creek | Chester |
| 20 | Brandywine Creek | Chadds Ford |

* For information available on each station, see description of station.

GAGING STATIONS IN SUSQUEHANNA RIVER BASIN*

| Station No. | Stream | Location |
|-------------|-----------------------------------------------|---------------------|
| 1 | North Branch of Susquehanna River | Binghamton, N. Y. |
| 2 | North Branch of Susquehanna River | Towanda |
| 3 | North Branch of Susquehanna River | Wilkes-Barre |
| 4 | North Branch of Susquehanna River | Danville |
| 5 | Susquehanna River | Sunbury |
| 6 | Susquehanna River | Harrisburg |
| 7 | Susquehanna River | Marietta |
| 8 | Chemung River | Corning, N. Y. |
| 9 | Towanda Creek | Monroeton |
| 10 | Tunkhannock Creek | Dixon |
| 11 | Wapwallopen Creek | Wapwallopen |
| 12 | Fishing Creek | Bloomsburg |
| 13 | West Branch of Susquehanna River | Bower |
| 14 | West Branch of Susquehanna River | Renovo |
| 15 | West Branch of Susquehanna River | Lock Haven |
| 16 | West Branch of Susquehanna River | Williamsport |
| 17 | Clearfield Creek | Dimeling |
| 18 | Sinnemahoning Creek | Sinnemahoning |
| 19 | Driftwood Branch of Sinnemahoning Creek | Sterling Run |
| 20 | North Bald Eagle Creek | Beech Creek Station |
| 21 | Pine Creek | Cedar Run |
| 22 | Lycoming Creek | Trout Run |
| 23 | Loyalsock Creek | Loyalsock |
| 24 | Penn Creek | Penns Creek |
| 25 | Mahantango Creek East | Dalmatia |
| 26 | Frankstown Branch of Juniata River | Williamsburg |
| 27 | Juniata River | Mapleton Depot |
| 28 | Juniata River | Newport |
| 29 | Little Juniata River | Spruce Creek |
| 30 | Shaver Creek | Petersburg |
| 31 | Standing Stone Creek | Huntingdon |
| 32 | Raystown Branch of Juniata River | Saxton |
| 33 | Dunning Creek | Yount |
| 34 | Brush Creek | Gapsville |
| 35 | Great Trough Creek | Marklesburg |
| 36 | Aughwick Creek | Orbisonia |
| 37 | Aughwick Creek | Three Springs |
| 38 | Tuscarora Creek | Port Royal |
| 39 | Cocolamus Creek | Millerstown |
| 40 | Sherman Creek | Shermandale |
| 41 | Clark Creek | Carsonville |
| 42 | Stony Creek | Dauphin |
| 43 | Conodoguinet Creek | Hogestown |
| 44 | Swatara Creek | Harper Tavern |
| 45 | Manada Creek | Manada Gap |
| 46 | West Conewago Creek | Manchester |
| 47 | Codorus Creek | Spring Grove |
| 48 | South Branch of Codorus Creek | York |
| 49 | Conestoga Creek | Lancaster |
| 50 | Muddy Creek | Castle Fin |

* For information available on each station, see description of station.

GAGING STATIONS ON POTOMAC RIVER BASIN*

| Station No | Stream | Location |
|------------|---------------------|----------------|
| 1 | Evitts Creek | Bedford Valley |
| 2 | Licking Creek | Sylvan |

GAGING STATIONS IN OHIO RIVER BASIN*

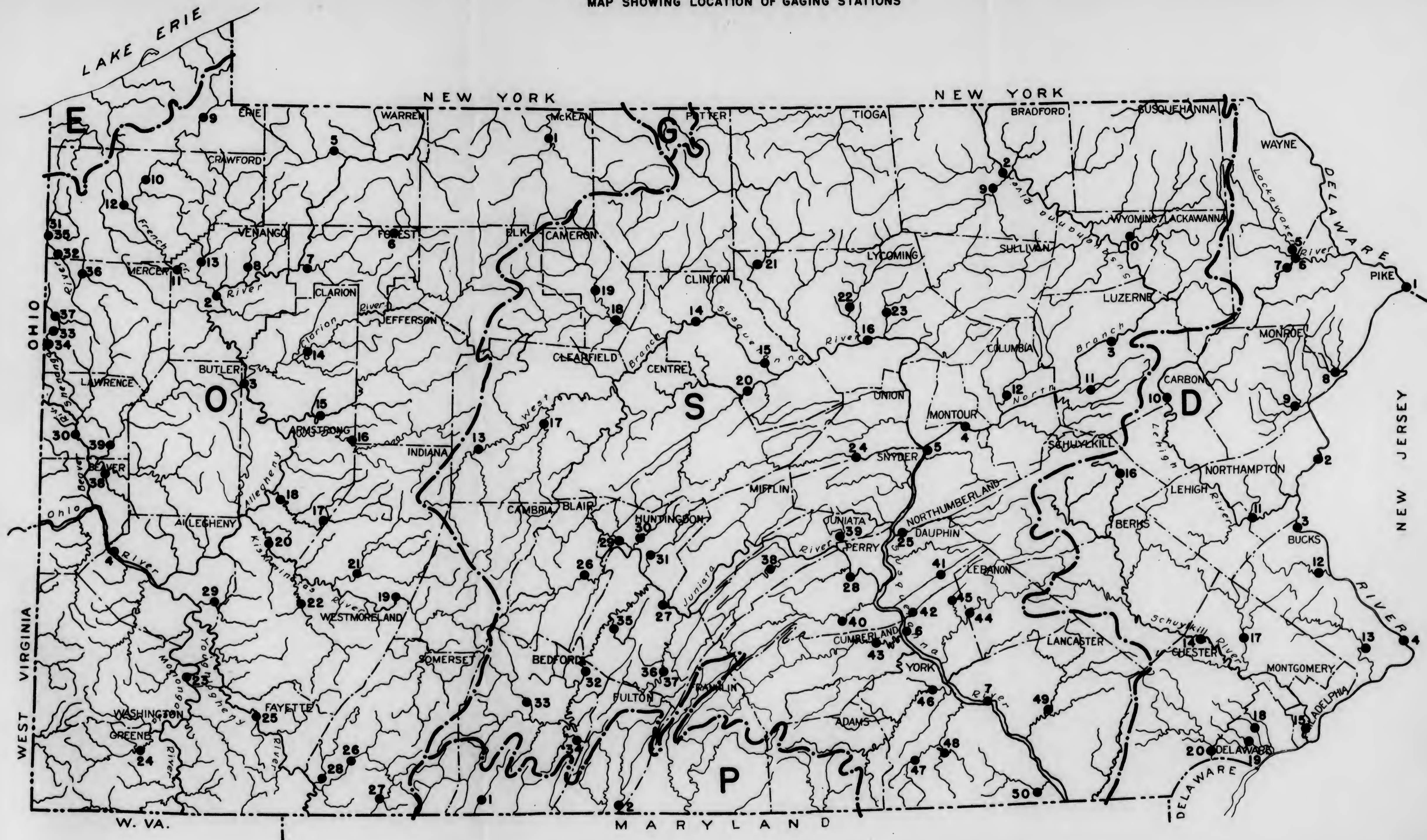
| Station No. | Stream | Location |
|-------------|-----------------------------------|-----------------|
| 1 | Allegheny River | Larabee |
| 2 | Allegheny River | Franklin |
| 3 | Allegheny River | Parkers Landing |
| 4 | Ohio River | Sewickley |
| 5 | Brokenstraw Creek | Youngsville |
| 6 | Tionesta Creek | Lynch |
| 7 | Tionesta Creek | Nebraska |
| 8 | Oil Creek | Rouseville |
| 9 | French Creek | Carters Corners |
| 10 | French Creek | Saegerstown |
| 11 | French Creek | Utica |
| 12 | Cussewago Creek | Meadville |
| 13 | Sugar Creek | Sugarcreek |
| 14 | Clarion River | Piney |
| 15 | Redbank Creek | St. Charles |
| 16 | Mahoning Creek | Dayton |
| 17 | Crooked Creek | Idaho |
| 18 | Crooked Creek | Ford City |
| 19 | Conemaugh River | Seward |
| 20 | Kiskiminetas River | Vandergrift |
| 21 | Blacklick Creek | Blacklick |
| 22 | Loyalhanna Creek | New Alexandria |
| 23 | Monongahela River | Charleroi |
| 24 | South Fork of Tenmile Creek | Jefferson |
| 25 | Youghiogheny River | Connellsville |
| 26 | Casselman River | Markleton |
| 27 | Big Piney Run | Salisbury |
| 28 | Laurel Hill Creek | Ursina |
| 29 | Turtle Creek | Trafford |
| 30 | Beaver River | Wampum |
| 31 | Pymatuning Reservoir | Pymatuning Dam |
| 32 | Shenango River | Pymatuning Dam |
| 33 | Shenango River | Sharpsville |
| 34 | Shenango River | Sharon |
| 35 | Sugar Run | Pymatuning Dam |
| 36 | Little Shenango River | Greenville |
| 37 | Pymatuning Creek | Orangeville |
| 38 | Connoquenessing Creek | Hazen |
| 39 | Slippery Rock Creek | Wurtemburg |

* For information available on each station, see description of station.

DEPARTMENT OF FORESTS AND WATERS
DIVISION OF HYDROGRAPHY
MAP SHOWING LOCATION OF GAGING STATIONS

GAGING STATIONS

31



LEGEND TO DRAINAGE BASINS:— D, DELAWARE; S, SUSQUEHANNA; P, PATOMAC; G, GENESEE; E, ERIE; O, OHIO.

GAGING-STATION RECORDS

DELAWARE RIVER BASIN

Delaware River at Port Jervis, N. Y.

Location.— Water-stage recorder, lat. 41°22'20", long. 74°41'50", near highway bridge at Port Jervis, Orange County, 1½ miles above mouth of Neversink River. Zero of gage is 415.35 feet above mean sea level (general adjustment of 1929).

Drainage area.— 3,076 square miles.

Records available.— October 1904 to September 1938.

Average discharge.— 34 years, 5,568 second-feet.

Extremes.— Maximum discharge during year, 101,000 second-feet Sept. 22 (gage height, 14.95 feet), from rating curve extended on basis of slope-area determination; minimum, 919 second-feet Oct. 18 (gage height, 1.69 feet); minimum daily discharge, 1,320 second-feet Oct. 11.

1904-38: Maximum discharge, 108,000 second-feet Mar. 18, 1936 (gage height, 17.55 feet), from rating curve extended above 35,000 second-feet; minimum, 175 second-feet Sept. 22, 1908 (gage height, 0.60 foot); minimum daily discharge, 175 second-feet Sept. 22, 1908.

Maximum stage known, 25.5 feet Mar. 8, 1904 (affected by ice); maximum discharge known, about 155,000 second-feet Oct. 10, 11, 1903, from rating curve extended above 35,000 second-feet.

Remarks.— Records excellent except those for periods of ice effect, Dec. 13-15, Jan. 18-22 (computed on basis of gage heights and weather records), and those for period of recorder failure, Dec. 11-16 (computed on basis of twice-daily gage readings), which are fair. Regulation from operation of power plants and from storage in Lake Wallenpaupack and in Toronto and Swinging Bridge Reservoirs (combined capacity, 12,200,000,000 cubic feet). Records furnished by U. S. Geological Survey, Albany, N. Y.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 2,500 | 5,600 | 6,600 | 3,450 | 8,900 | 3,500 | 6,100 | 3,800 | 3,850 | 5,400 | 5,100 | 2,950 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 1,860 | 5,000 | 5,700 | 2,800 | 7,100 | 3,500 | 6,000 | 3,800 | 3,550 | 4,300 | 5,600 | 2,850 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 1,760 | 4,600 | 5,000 | 3,400 | 5,600 | 4,250 | 5,300 | 3,800 | 3,350 | 4,450 | 5,400 | 2,220 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 1,720 | 4,300 | 4,650 | 3,450 | 7,300 | 4,150 | 5,000 | 3,600 | 2,950 | 3,750 | 4,250 | 1,700 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 2,300 | 3,950 | 4,150 | 3,350 | 8,500 | 3,400 | 5,100 | 3,450 | 2,600 | 3,150 | 3,650 | 1,640 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 2,220 | 3,650 | 4,550 | 3,700 | 6,300 | 3,850 | 4,950 | 3,100 | 2,550 | 3,050 | 3,300 | 1,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 2,260 | 3,250 | 4,800 | 4,400 | 12,600 | 11,000 | 4,750 | 2,420 | 2,650 | 3,300 | 3,200 | 2,650 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 1,880 | 3,050 | 4,200 | 5,100 | 15,800 | 7,400 | 4,400 | 2,280 | 2,950 | 2,800 | 5,300 | 2,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 2,020 | 3,100 | 4,150 | 4,750 | 11,200 | 5,800 | 6,300 | 2,380 | 3,100 | 3,100 | 5,500 | 2,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 1,400 | 2,850 | 3,450 | 3,950 | 12,200 | 4,900 | 13,800 | 2,600 | 3,000 | 2,850 | 7,700 | 2,850 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 1,320 | 2,600 | 2,500 | 3,500 | 11,800 | 4,350 | 13,200 | 2,850 | 2,380 | 3,150 | 18,800 | 2,040 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 1,880 | 2,500 | 2,300 | 3,700 | 8,500 | 3,800 | 12,900 | 2,650 | 1,800 | 3,400 | 41,000 | 1,980 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 1,840 | 3,850 | 2,400 | 3,850 | 8,500 | 3,600 | 11,800 | 2,320 | 4,550 | 3,450 | 16,200 | 2,480 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 2,280 | 11,200 | 2,400 | 3,950 | 13,000 | 6,300 | 10,800 | 2,120 | 10,000 | 3,000 | 10,600 | 2,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 2,080 | 12,200 | 2,600 | 3,300 | 12,400 | 9,200 | 9,600 | 3,450 | 6,400 | 2,500 | 8,500 | 3,300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 2,020 | 9,300 | 3,200 | 2,750 | 8,900 | 7,500 | 8,600 | 7,300 | 4,950 | 2,320 | 7,300 | 3,650 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 1,380 | 8,100 | 4,000 | 2,700 | 7,300 | 7,800 | 7,900 | 7,400 | 4,150 | 2,120 | 6,100 | 3,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 1,480 | 7,100 | 10,600 | 2,800 | 7,400 | 11,000 | 7,100 | 5,500 | 3,350 | 2,420 | 5,900 | 3,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 2,140 | 6,200 | 21,200 | 2,600 | 7,200 | 12,200 | 9,100 | 4,750 | 2,750 | 3,350 | 5,900 | 3,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 2,360 | 5,700 | 15,800 | 2,800 | 7,800 | 11,000 | 9,600 | 4,450 | 2,850 | 3,800 | 4,900 | 5,400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | 7,200 | 5,300 | 11,400 | 2,600 | 7,300 | 10,600 | 8,500 | 3,900 | 3,350 | 4,150 | 4,200 | 24,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 5,800 | 5,200 | 9,500 | 2,600 | 6,400 | 11,400 | 8,000 | 3,900 | 3,050 | 17,400 | 3,900 | 89,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 6,400 | 5,000 | 8,400 | 2,440 | 6,300 | 10,800 | 8,000 | 4,500 | 3,050 | 27,500 | 3,900 | 49,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 32,500 | 4,600 | 7,200 | 2,700 | 6,000 | 10,400 | 6,900 | 6,200 | 2,800 | 27,000 | 3,800 | 26,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 18,600 | 4,100 | 5,700 | 14,400 | 5,600 | 10,000 | 6,500 | 8,700 | 2,700 | 16,800 | 3,550 | 17,400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | 11,000 | 3,350 | 5,400 | 42,500 | 4,300 | 8,500 | 6,000 | 7,800 | 2,460 | 11,600 | 3,300 | 13,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | 8,200 | 3,200 | 5,300 | 19,400 | 3,900 | 7,800 | 5,500 | 6,700 | 3,450 | 8,700 | 3,200 | 10,400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | 7,100 | 4,050 | 5,100 | 12,000 | 4,200 | 7,300 | 5,100 | 5,700 | 10,600 | 7,100 | 2,800 | 8,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | 8,800 | 6,900 | 4,600 | 8,200 | | 6,900 | 4,550 | 4,850 | 10,600 | 6,400 | 2,700 | 7,600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 8,800 | 7,900 | 4,100 | 6,700 | | 6,500 | 4,150 | 4,150 | 7,400 | 5,900 | 3,050 | 6,600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | 6,800 | | 3,950 | 7,800 | | 6,100 | | 4,050 | | 5,500 | 2,950 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table><tr><th rowspan="2">Month</th><th colspan="3">Observed</th><th colspan="2">Storage</th><th colspan="3"></th></tr><tr><th>Maximum</th><th>Minimum</th><th>Mean</th><th>(Mean)</th><th>Mean</th><th>Per square mile</th><th>Run-off in inches</th></tr><tr><td>October.....</td><td>32,500</td><td>1,320</td><td>5,158</td><td>+45</td><td></td><td></td><td></td></tr><tr><td>November.....</td><td>12,200</td><td>2,500</td><td>5,257</td><td>+488</td><td></td><td></td><td></td></tr><tr><td>December.....</td><td>21,200</td><td>2,300</td><td>5,965</td><td>-38</td><td></td><td></td><td></td></tr><tr><td>January.....</td><td>42,500</td><td>2,440</td><td>6,182</td><td>-211</td><td></td><td></td><td></td></tr><tr><td>February.....</td><td>15,800</td><td>3,900</td><td>8,296</td><td>-84</td><td></td><td></td><td></td></tr><tr><td>March.....</td><td>12,200</td><td>3,400</td><td>7,252</td><td>+56</td><td></td><td></td><td></td></tr><tr><td>April.....</td><td>13,800</td><td>4,150</td><td>7,513</td><td>+620</td><td></td><td></td><td></td></tr><tr><td>May.....</td><td>8,700</td><td>2,120</td><td>4,338</td><td>+ 52</td><td></td><td></td><td></td></tr><tr><td>June.....</td><td>10,600</td><td>1,800</td><td>4,106</td><td>-506</td><td></td><td></td><td></td></tr><tr><td>July.....</td><td>27,500</td><td>2,120</td><td>6,571</td><td>+103</td><td></td><td></td><td></td></tr><tr><td>August.....</td><td>41,000</td><td>2,700</td><td>6,324</td><td>-774</td><td></td><td></td><td></td></tr><tr><td>September.....</td><td>89,000</td><td>1,640</td><td>10,270</td><td>-276</td><td></td><td></td><td></td></tr><tr><td>The year.....</td><td>89,000</td><td>1,320</td><td>6,460</td><td>-45</td><td></td><td>2.10</td><td>28.53</td></tr></table> | | | | | | | | | | | | | Month | Observed | | | Storage | | | | | Maximum | Minimum | Mean | (Mean) | Mean | Per square mile | Run-off in inches | October..... | 32,500 | 1,320 | 5,158 | +45 | | | | November..... | 12,200 | 2,500 | 5,257 | +488 | | | | December..... | 21,200 | 2,300 | 5,965 | -38 | | | | January..... | 42,500 | 2,440 | 6,182 | -211 | | | | February..... | 15,800 | 3,900 | 8,296 | -84 | | | | March..... | 12,200 | 3,400 | 7,252 | +56 | | | | April..... | 13,800 | 4,150 | 7,513 | +620 | | | | May..... | 8,700 | 2,120 | 4,338 | + 52 | | | | June..... | 10,600 | 1,800 | 4,106 | -506 | | | | July..... | 27,500 | 2,120 | 6,571 | +103 | | | | August..... | 41,000 | 2,700 | 6,324 | -774 | | | | September..... | 89,000 | 1,640 | 10,270 | -276 | | | | The year..... | 89,000 | 1,320 | 6,460 | -45 | | 2.10 | 28.53 |
| Month | Observed | | | Storage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Maximum | Minimum | Mean | (Mean) | Mean | Per square mile | Run-off in inches | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| October..... | 32,500 | 1,320 | 5,158 | +45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| November..... | 12,200 | 2,500 | 5,257 | +488 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| December..... | 21,200 | 2,300 | 5,965 | -38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| January..... | 42,500 | 2,440 | 6,182 | -211 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| February..... | 15,800 | 3,900 | 8,296 | -84 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| March..... | 12,200 | 3,400 | 7,252 | +56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| April..... | 13,800 | 4,150 | 7,513 | +620 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| May..... | 8,700 | 2,120 | 4,338 | + 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| June..... | 10,600 | 1,800 | 4,106 | -506 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| July..... | 27,500 | 2,120 | 6,571 | +103 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| August..... | 41,000 | 2,700 | 6,324 | -774 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| September..... | 89,000 | 1,640 | 10,270 | -276 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The year..... | 89,000 | 1,320 | 6,460 | -45 | | 2.10 | 28.53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Delaware River at Belvidere, N. J.

Location.— Water-stage recorder, lat. 40°49'36", long. 75°05'02", at Belvidere, Warren County, just below mouth of Pequest River. Zero of gage is 226.43 feet (revised) above mean sea level (general adjustment of 1929).

Drainage area.— 4,542 square miles.

Records available.— October 1922 to September 1938.

Average discharge.— 16 years, 8,007 second-feet, adjusted for storage.

Extremes.— Maximum discharge during year, 116,000 second-feet Sept. 22 (gage height, 19.27 feet); minimum, 1,620 second-feet Oct. 12 (gage height, 3.12 feet). 1922-38: Maximum discharge, 179,000 second-feet Mar. 19, 1936 (gage height, 25.0 feet); minimum, 838 second-feet Sept. 28, 1932 (gage height, 2.37 feet).

Maximum stage known, 28.6 feet, from floodmark, Oct. 10, 1903 (discharge, 220,000 second-feet, from rating curve extended above 170,000 second-feet).

Remarks.— Records excellent. Flow regulated by storage in Lake Wallenpaupack and in Toronto and Swinging Bridge Reservoirs on Mongaup River. Last three columns of monthly table adjusted for effect of storage in Lake Wallenpaupack and in Toronto and Swinging Bridge Reservoirs. Records furnished by U. S. Geological Survey, Trenton, N. J.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|--------|----------|---------|--------|--------|--------|----------------------|-----------------|-------------------|--------|--------|--------|
| 1 | 3,040 | 9,020 | 10,800 | 6,370 | 12,800 | 6,370 | 9,020 | 6,370 | 5,590 | 11,900 | 9,020 | 4,190 |
| 2 | 2,940 | 8,090 | 9,410 | 5,440 | 11,200 | 5,900 | 8,830 | 5,900 | 5,440 | 9,410 | 9,800 | 4,060 |
| 3 | 2,340 | 7,550 | 8,270 | 5,290 | 9,600 | 6,210 | 8,270 | 5,900 | 5,290 | 8,090 | 10,000 | 3,820 |
| 4 | 2,210 | 6,860 | 7,550 | 5,440 | 9,800 | 6,370 | 7,550 | 5,900 | 5,000 | 7,380 | 8,460 | 3,140 |
| 5 | 2,230 | 6,370 | 6,860 | 5,290 | 11,900 | 6,210 | 7,380 | 5,440 | 4,450 | 6,210 | 7,200 | 2,630 |
| 6 | 2,730 | 5,900 | 6,860 | 5,590 | 10,600 | 6,060 | 7,380 | 5,290 | 4,060 | 5,290 | 6,860 | 2,440 |
| 7 | 2,730 | 5,440 | 7,730 | 6,210 | 12,300 | 9,660 | 7,380 | 4,580 | 4,060 | 5,140 | 6,530 | 2,730 |
| 8 | 2,730 | 5,000 | 7,380 | 7,730 | 21,800 | 11,900 | 7,030 | 3,940 | 4,190 | 4,860 | 6,700 | 3,470 |
| 9 | 2,340 | 4,860 | 6,370 | 7,380 | 16,600 | 9,020 | 8,830 | 3,820 | 4,450 | 4,450 | 8,640 | 3,580 |
| 10 | 2,440 | 4,860 | 5,900 | 6,530 | 15,100 | 7,730 | 16,600 | 3,940 | 4,450 | 4,860 | 9,020 | 3,580 |
| 11 | 1,930 | 4,450 | 4,720 | 5,900 | 16,600 | 7,030 | 19,600 | 4,190 | 4,190 | 4,580 | 10,600 | 3,470 |
| 12 | 1,820 | 4,060 | 3,580 | 5,590 | 13,700 | 6,210 | 17,600 | 4,190 | 3,580 | 5,740 | 49,000 | 2,730 |
| 13 | 2,340 | 6,060 | 3,250 | 5,740 | 11,200 | 5,900 | 18,100 | 3,940 | 3,700 | 5,740 | 27,200 | 2,830 |
| 14 | 2,340 | 18,800 | 3,940 | 6,060 | 14,100 | 6,530 | 16,100 | 3,580 | 9,320 | 5,290 | 15,600 | 3,140 |
| 15 | 2,630 | 22,400 | 4,860 | 5,900 | 16,600 | 11,500 | 14,600 | 5,000 | 10,000 | 4,860 | 11,500 | 3,580 |
| 16 | 2,630 | 17,600 | 5,000 | 4,580 | 14,100 | 11,500 | 12,800 | 8,640 | 7,380 | 4,060 | 10,200 | 4,580 |
| 17 | 2,440 | 14,100 | 5,740 | 4,320 | 11,000 | 11,200 | 11,900 | 11,000 | 6,060 | 3,700 | 9,220 | 4,720 |
| 18 | 1,900 | 12,300 | 9,440 | 4,060 | 10,200 | 13,700 | 10,800 | 8,640 | 5,440 | 3,360 | 9,220 | 4,580 |
| 19 | 2,310 | 10,800 | 23,000 | 3,940 | 10,600 | 16,600 | 11,900 | 7,380 | 4,450 | 4,320 | 8,830 | 4,190 |
| 20 | 5,440 | 10,000 | 23,600 | 4,190 | 11,000 | 16,100 | 13,700 | 6,530 | 3,820 | 5,440 | 8,270 | 8,380 |
| 21 | 8,830 | 9,020 | 17,100 | 4,450 | 10,800 | 15,100 | 13,200 | 6,370 | 4,060 | 7,380 | 7,030 | 21,500 |
| 22 | 9,800 | 8,270 | 14,100 | 4,320 | 10,000 | 15,100 | 11,900 | 5,900 | 4,320 | 12,500 | 5,590 | 89,800 |
| 23 | 9,800 | 7,910 | 12,300 | 4,580 | 9,220 | 15,100 | 11,900 | 5,900 | 4,060 | 46,600 | 5,740 | 87,000 |
| 24 | 31,900 | 7,550 | 11,000 | 4,060 | 9,410 | 14,600 | 11,000 | 7,030 | 4,720 | 45,800 | 5,590 | 44,200 |
| 25 | 32,500 | 6,860 | 9,410 | 18,200 | 8,830 | 13,700 | 9,600 | 10,400 | 4,060 | 31,700 | 5,140 | 28,400 |
| 26 | 18,100 | 6,210 | 8,460 | 55,800 | 8,090 | 12,800 | 9,220 | 11,200 | 4,340 | 20,600 | 4,860 | 20,100 |
| 27 | 13,200 | 5,590 | 7,910 | 37,600 | 6,700 | 11,500 | 8,640 | 9,800 | 7,040 | 15,600 | 4,580 | 16,100 |
| 28 | 11,900 | 6,210 | 7,910 | 20,600 | 6,370 | 10,600 | 8,090 | 8,830 | 20,600 | 12,800 | 4,450 | 13,700 |
| 29 | 11,900 | 9,220 | 7,550 | 14,100 | | 9,800 | 7,380 | 7,730 | 21,800 | 11,000 | 3,820 | 11,500 |
| 30 | 13,200 | 11,900 | 6,700 | 11,900 | | 9,410 | 6,860 | 6,700 | 15,600 | 11,200 | 3,820 | 10,200 |
| 31 | 11,200 | | 6,370 | 11,500 | | 9,220 | | 5,900 | | 9,800 | 4,060 | |
| Month | | Observed | | | | | Adjusted for storage | | | | | |
| | | Maximum | Minimum | Mean | | | Mean | Per square mile | Run-off in inches | | | |
| October..... | | 32,500 | 1,820 | 7,221 | | | | 7,265 | 1.60 | 1.84 | | |
| November..... | | 22,400 | 4,060 | 8,775 | | | | 9,263 | 2.04 | 2.28 | | |
| December..... | | 23,600 | 3,250 | 8,809 | | | | 8,771 | 1.93 | 2.22 | | |
| January..... | | 55,800 | 3,940 | 9,634 | | | | 9,423 | 2.07 | 2.39 | | |
| February..... | | 21,800 | 6,370 | 11,790 | | | | 11,710 | 2.58 | 2.69 | | |
| March..... | | 16,600 | 5,900 | 10,280 | | | | 10,330 | 2.27 | 2.62 | | |
| April..... | | 19,600 | 6,860 | 11,110 | | | | 11,720 | 2.58 | 2.88 | | |
| May..... | | 11,200 | 3,580 | 6,449 | | | | 6,501 | 1.43 | 1.66 | | |
| June..... | | 21,800 | 3,580 | 6,517 | | | | 6,011 | 1.32 | 1.47 | | |
| July..... | | 46,600 | 3,360 | 10,960 | | | | 11,060 | 2.44 | 2.81 | | |
| August..... | | 49,000 | 3,820 | 9,566 | | | | 8,792 | 1.94 | 2.24 | | |
| September..... | | 89,800 | 2,440 | 13,940 | | | | 13,670 | 3.01 | 3.36 | | |
| The year..... | | 89,800 | 1,820 | 9,564 | | | | 9,519 | 2.10 | 28.45 | | |

Delaware River at Riegelsville, N. J.

Location.— Water-stage recorder, lat. 40°35'36", long. 75°11'17", at suspension bridge at Riegelsville, Warren County, 600 feet above mouth of Musconetcong River, flow of which is included in records subsequent to Oct. 1, 1931. Zero of gage is 125.12 feet (revised) above mean sea level (general adjustment of 1929).

Drainage area.— 6,344 square miles (includes drainage area of Musconetcong River).

Records available.— July 1906 to September 1938.

Average discharge.— 32 years, 10,960 second-feet (including flow of Musconetcong River subsequent to Oct. 1, 1931), adjusted for diversion and storage.

Extremes.— Maximum discharge during year ending Sept. 30, 1937, 72,500 second-feet Feb. 23 (gage height, 16.50 feet); minimum, not including flow in Delaware Division Canal, 1,670 second-feet Dec. 1 (gage height, 2.11 feet).

Maximum discharge during year ending Sept. 30, 1938, 123,000 second-feet Sept. 23 (gage height, 23.00 feet); minimum, not including flow in Delaware Division Canal, 2,740 second-feet Oct. 12 (gage height, 2.65 feet).

1906-38: Maximum discharge, 210,000 second-feet Mar. 19, 1936 (gage height, 32.45 feet), determined by slope-area method; minimum, not including flow in canal, 870 second-feet Sept. 20, 1908 (gage height, 1.55 feet).

Maximum stage known, 35.9 feet, from floodmarks, Oct. 10, 1903 (discharge, about 275,000 second-feet).

Remarks.— Records good below and fair above 40,000 second-feet. Discharge for period of missing gage heights, July 21 to Aug. 6, 1937, computed on basis of observer's weekly readings, and records for station at Trenton. Last three columns of table of monthly discharge adjusted for diversion to Delaware Division Canal, and for

Daily and monthly discharge, in second-feet, 1936-37

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|-------|----------|---------|--------|--------|--------|----------------------------------|-------------------|--------|--------|--------|-------|
| 1 | 3,750 | 4,860 | 2,410 | 14,800 | 22,300 | 14,400 | 11,700 | 19,500 | 7,330 | 10,600 | 3,700 | 7,490 |
| 2 | 3,880 | 4,720 | 3,350 | 17,700 | 18,600 | 13,200 | 12,400 | 16,400 | 7,170 | 10,200 | 3,500 | 6,700 |
| 3 | 3,350 | 4,290 | 4,580 | 16,900 | 15,200 | 12,400 | 14,800 | 14,800 | 7,010 | 11,300 | 3,200 | 6,230 |
| 4 | 2,930 | 4,290 | 5,010 | 16,900 | 12,400 | 11,700 | 14,000 | 14,000 | 7,010 | 9,850 | 3,200 | 5,920 |
| 5 | 2,770 | 5,010 | 4,720 | 16,400 | 11,700 | 11,500 | 13,200 | 13,200 | 7,170 | 9,150 | 3,200 | 5,610 |
| 6 | 2,630 | 22,000 | 4,860 | 14,000 | 10,900 | 11,700 | 19,700 | 12,400 | 6,700 | 8,140 | 3,100 | 5,460 |
| 7 | 2,610 | 21,400 | 8,540 | 12,800 | 11,500 | 11,700 | 43,600 | 12,000 | 7,330 | 7,490 | 3,200 | 7,490 |
| 8 | 2,500 | 14,800 | 7,650 | 13,200 | 10,600 | 10,200 | 44,500 | 12,400 | 10,900 | 7,010 | 3,400 | 8,140 |
| 9 | 2,680 | 12,000 | 7,490 | 12,800 | 10,200 | 9,600 | 33,400 | 11,300 | 11,700 | 6,380 | 3,350 | 8,860 |
| 10 | 2,740 | 10,600 | 7,980 | 14,400 | 11,500 | 9,150 | 33,900 | 10,600 | 9,150 | 5,920 | 2,810 | 6,230 |
| 11 | 3,000 | 9,150 | 8,140 | 16,400 | 12,800 | 8,300 | 31,300 | 9,850 | 7,980 | 5,460 | 4,540 | 5,610 |
| 12 | 2,960 | 7,980 | 14,800 | 15,200 | 11,500 | 7,650 | 24,200 | 9,500 | 7,490 | 5,610 | 9,150 | 5,310 |
| 13 | 2,500 | 7,170 | 27,700 | 13,600 | 10,200 | 7,170 | 21,400 | 8,810 | 6,540 | 5,610 | 9,150 | 4,720 |
| 14 | 2,410 | 6,540 | 20,500 | 12,400 | 10,200 | 7,330 | 18,600 | 9,500 | 6,540 | 5,920 | 8,640 | 4,860 |
| 15 | 2,740 | 5,920 | 15,600 | 13,600 | 13,200 | 7,490 | 18,200 | 17,400 | 6,380 | 6,230 | 8,640 | 6,230 |
| 16 | 2,740 | 5,610 | 13,200 | 20,000 | 15,200 | 7,490 | 21,900 | 35,300 | 7,490 | 7,010 | 6,540 | 7,330 |
| 17 | 3,000 | 5,460 | 13,600 | 21,900 | 15,200 | 7,170 | 26,700 | 32,800 | 7,810 | 7,810 | 5,460 | 6,650 |
| 18 | 3,740 | 5,310 | 12,800 | 21,400 | 10,900 | 7,170 | 22,300 | 25,700 | 7,010 | 7,010 | 5,160 | 6,580 |
| 19 | 5,160 | 5,010 | 12,000 | 24,700 | 9,850 | 7,010 | 19,500 | 23,300 | 8,300 | 5,920 | 5,010 | 5,760 |
| 20 | 5,460 | 4,580 | 18,700 | 27,700 | 9,150 | 7,650 | 19,500 | 20,500 | 7,810 | 5,160 | 5,010 | 5,310 |
| 21 | 5,610 | 4,430 | 25,200 | 22,800 | 9,150 | 9,850 | 17,700 | 17,700 | 8,300 | 4,800 | 4,430 | 5,310 |
| 22 | 4,860 | 4,150 | 22,800 | 22,800 | 13,600 | 13,600 | 22,800 | 16,000 | 15,100 | 4,600 | 4,860 | 5,760 |
| 23 | 4,290 | 4,020 | 16,400 | 37,500 | 64,800 | 15,600 | 37,200 | 14,000 | 25,700 | 4,000 | 16,000 | 8,480 |
| 24 | 4,150 | 3,880 | 13,600 | 36,600 | 41,000 | 15,200 | 37,800 | 13,200 | 20,000 | 4,000 | 16,400 | 5,010 |
| 25 | 3,880 | 4,020 | 12,000 | 34,400 | 29,200 | 15,200 | 29,700 | 12,800 | 14,800 | 3,800 | 11,300 | 4,290 |
| 26 | 4,430 | 3,740 | 11,700 | 47,500 | 23,700 | 17,700 | 23,700 | 11,300 | 11,700 | 3,600 | 8,810 | 3,880 |
| 27 | 5,610 | 3,610 | 11,300 | 44,500 | 19,500 | 16,000 | 24,200 | 10,600 | 9,850 | 4,000 | 8,140 | 3,880 |
| 28 | 5,760 | 3,220 | 11,500 | 32,800 | 16,900 | 14,000 | 24,700 | 9,850 | 8,470 | 3,900 | 9,150 | 3,480 |
| 29 | 6,230 | 3,030 | 11,700 | 26,200 | | 12,400 | 25,200 | 10,600 | 8,470 | 3,800 | 11,700 | 4,150 |
| 30 | 5,310 | 3,480 | 12,000 | 22,800 | | 11,300 | 22,800 | 9,150 | 9,150 | 3,700 | 10,900 | 4,290 |
| 31 | 5,010 | | 11,700 | 20,900 | | 10,600 | | 8,140 | | 3,700 | 8,470 | |
| Month | | Observed | | | | | Adjusted for storage & diversion | | | | | |
| | | Maximum | Minimum | Mean | | Mean | Per square mile | Run-off in inches | | | | |
| October..... | | 6,230 | 2,410 | 3,829 | | 3,619 | 0.570 | 0.66 | | | | |
| November..... | | 22,000 | 3,030 | 6,809 | | 6,807 | 1.07 | 1.19 | | | | |
| December..... | | 27,700 | 2,410 | 12,040 | | 12,560 | 1.98 | 2.28 | | | | |
| January..... | | 47,500 | 12,400 | 22,120 | | 22,960 | 3.62 | 4.17 | | | | |
| February..... | | 64,800 | 9,150 | 17,020 | | 17,650 | 2.78 | 2.90 | | | | |
| March..... | | 17,700 | 7,010 | 11,000 | | 11,220 | 1.77 | 2.04 | | | | |
| April..... | | 44,500 | 11,700 | 24,370 | | 25,250 | 3.98 | 4.44 | | | | |
| May..... | | 35,300 | 8,140 | 14,920 | | 15,180 | 2.39 | 2.76 | | | | |
| June..... | | 25,700 | 6,380 | 9,545 | | 9,595 | 1.61 | 1.68 | | | | |
| July..... | | 11,300 | 3,600 | 6,183 | | 5,932 | 1.935 | 1.08 | | | | |
| August..... | | 16,400 | 2,810 | 6,778 | | 6,449 | 1.02 | 1.18 | | | | |
| September..... | | 8,140 | 3,480 | 5,666 | | 5,221 | .823 | .92 | | | | |
| The year..... | | 64,800 | 2,410 | 11,650 | | | 11,820 | 1.86 | 25.30 | | | |

Delaware River at Riegelsville, N. J.

(Continued)

effect of storage in Lake Wallenpaupack, reservoirs on Mongaup River, and in Lake Hopatcong. Records furnished by U. S. Geological Survey, Trenton, N. J.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|---------|----------|---------|--------|----------------------------------|-------------------|--------|--------|--------|--------|--------|---------|
| 1 | 4,290 | 13,600 | 14,800 | 9,500 | 17,300 | 8,140 | 12,000 | 9,150 | 7,980 | 18,600 | 13,600 | 6,230 |
| 2 | 4,150 | 12,000 | 12,800 | 9,850 | 15,200 | 9,150 | 12,000 | 8,470 | 7,490 | 15,200 | 15,200 | 6,080 |
| 3 | 3,610 | 11,300 | 11,700 | 9,150 | 14,000 | 9,150 | 11,300 | 8,140 | 7,490 | 12,800 | 14,800 | 5,460 |
| 4 | 3,200 | 10,200 | 10,600 | 8,810 | 14,000 | 8,810 | 10,600 | 8,140 | 7,170 | 11,300 | 12,400 | 5,010 |
| 5 | 3,280 | 9,500 | 9,850 | 8,470 | 15,600 | 9,150 | 9,850 | 7,810 | 6,540 | 9,850 | 10,600 | 4,290 |
| 6 | 3,740 | 8,810 | 9,850 | 8,640 | 14,800 | 9,150 | 9,850 | 7,490 | 6,230 | 8,470 | 11,700 | 4,020 |
| 7 | 4,020 | 8,300 | 10,600 | 9,500 | 17,300 | 11,100 | 9,850 | 6,850 | 5,920 | 7,490 | 11,700 | 3,880 |
| 8 | 4,020 | 7,810 | 10,200 | 11,700 | 27,700 | 16,000 | 9,850 | 6,080 | 6,230 | 7,490 | 10,900 | 4,660 |
| 9 | 3,610 | 7,330 | 9,150 | 11,300 | 23,700 | 12,400 | 12,000 | 5,760 | 6,540 | 6,850 | 11,700 | 5,010 |
| 10 | 3,610 | 7,170 | 8,140 | 9,500 | 20,500 | 10,600 | 21,400 | 5,920 | 6,230 | 7,010 | 12,000 | 5,010 |
| 11 | 3,120 | 6,850 | 7,010 | 8,810 | 21,900 | 9,850 | 26,700 | 6,080 | 5,920 | 7,330 | 14,000 | 5,010 |
| 12 | 2,880 | 6,380 | 5,610 | 8,640 | 18,600 | 9,150 | 24,200 | 6,230 | 5,610 | 7,810 | 44,400 | 4,430 |
| 13 | 3,320 | 8,690 | 5,460 | 8,640 | 15,600 | 8,640 | 24,200 | 5,920 | 5,460 | 8,640 | 34,800 | 4,020 |
| 14 | 3,480 | 23,400 | 5,010 | 8,810 | 18,600 | 9,850 | 21,900 | 5,610 | 9,180 | 7,810 | 20,000 | 4,720 |
| 15 | 3,740 | 29,700 | 6,540 | 8,640 | 21,900 | 16,000 | 20,000 | 7,330 | 12,800 | 7,330 | 14,800 | 5,160 |
| 16 | 3,610 | 23,700 | 7,170 | 7,170 | 18,600 | 17,700 | 17,700 | 11,300 | 9,150 | 6,700 | 13,200 | 6,700 |
| 17 | 3,740 | 19,500 | 7,980 | 7,010 | 14,800 | 17,700 | 16,000 | 13,600 | 7,650 | 5,760 | 12,000 | 6,380 |
| 18 | 3,080 | 16,900 | 13,200 | 6,080 | 13,600 | 20,000 | 15,200 | 11,700 | 8,470 | 5,610 | 13,200 | 6,380 |
| 19 | 3,250 | 14,800 | 27,200 | 5,760 | 14,400 | 23,300 | 16,000 | 9,500 | 6,540 | 6,230 | 12,000 | 6,540 |
| 20 | 9,030 | 13,600 | 30,200 | 6,080 | 16,000 | 22,300 | 18,200 | 8,640 | 5,610 | 10,600 | 11,300 | 12,400 |
| 21 | 11,700 | 12,400 | 23,300 | 6,700 | 16,000 | 20,900 | 17,700 | 8,300 | 5,160 | 16,000 | 9,500 | 30,300 |
| 22 | 13,600 | 11,700 | 19,000 | 6,540 | 14,400 | 20,500 | 16,000 | 7,980 | 5,760 | 21,400 | 8,300 | 91,900 |
| 23 | 17,300 | 10,900 | 16,400 | 7,010 | 13,200 | 20,500 | 16,000 | 7,810 | 5,610 | 56,500 | 7,650 | 103,000 |
| 24 | 44,400 | 10,200 | 14,800 | 6,540 | 14,000 | 19,500 | 14,800 | 8,810 | 6,540 | 63,500 | 7,490 | 56,200 |
| 25 | 46,900 | 9,500 | 12,800 | 26,900 | 12,800 | 18,600 | 13,200 | 14,000 | 5,610 | 46,300 | 7,170 | 37,900 |
| 26 | 27,200 | 8,810 | 11,700 | 66,900 | 11,700 | 16,900 | 12,400 | 15,200 | 6,310 | 31,800 | 6,700 | 27,700 |
| 27 | 20,000 | 8,300 | 10,600 | 52,600 | 10,900 | 15,600 | 11,700 | 13,600 | 14,000 | 24,200 | 6,380 | 22,300 |
| 28 | 17,700 | 8,810 | 9,850 | 31,300 | 10,600 | 14,400 | 10,900 | 12,000 | 35,800 | 19,500 | 6,230 | 19,000 |
| 29 | 19,000 | 12,800 | | 21,400 | 10,200 | 13,600 | 10,200 | 10,900 | 34,400 | 16,400 | 5,920 | 16,000 |
| 30 | 19,000 | 16,000 | | 17,300 | 9,500 | 12,800 | 9,500 | 25,200 | 16,900 | 5,310 | 14,000 | |
| 31 | 16,900 | | | 16,900 | 8,810 | 12,400 | | 8,470 | | 15,200 | 5,760 | |
| Month | | Observed | | | Adjusted for storage & diversion | | | | | | | |
| | | Maximum | Minimum | Mean | | | | | | | | |
| October..... | 46,900 | 2,880 | 10,660 | 10,760 | Per square mile | Run-off in inches | | | | | | |
| November..... | 29,700 | 6,380 | 12,300 | 12,860 | 1.70 | 1.96 | | | | | | |
| December..... | 30,200 | 5,010 | 11,970 | 11,930 | 2.03 | 2.26 | | | | | | |
| January..... | 66,900 | 5,760 | 13,940 | 13,750 | 1.88 | 2.17 | | | | | | |
| February..... | 27,700 | 9,850 | 16,310 | 13,750 | 2.17 | 2.50 | | | | | | |
| March..... | 23,300 | 8,140 | 14,320 | 16,220 | 2.56 | 2.67 | | | | | | |
| April..... | 28,700 | 9,500 | 15,040 | 14,400 | 2.27 | 2.62 | | | | | | |
| May..... | 15,200 | 5,610 | 8,913 | 15,700 | 2.47 | 2.76 | | | | | | |
| June..... | 35,800 | 5,160 | 9,620 | 9,022 | 1.42 | 1.64 | | | | | | |
| July..... | 63,500 | 5,610 | 16,340 | 9,194 | 1.45 | 1.62 | | | | | | |
| August..... | 44,400 | 5,310 | 12,600 | 16,500 | 2.60 | 3.00 | | | | | | |
| September..... | 103,000 | 3,880 | 17,660 | 11,870 | 1.87 | 2.16 | | | | | | |
| | | | | 17,460 | 2.75 | 3.07 | | | | | | |
| The year..... | | 103,000 | 2,880 | 13,280 | 13,280 | 2.09 | 28.43 | | | | | |

Delaware River at Trenton, N. J.

Location.- Water-stage recorder, lat. 40°13'18", long. 74°46'38", 200 feet above Calhoun Street Bridge, at Trenton, Mercer County, half a mile above mouth of Assumpink Creek. Zero of gage is 7.77 feet above mean sea level (general adjustment of 1929).

Drainage area.- 6,796 square miles.

Records available.- February 1913 to September 1938.

Average discharge.- 25 years, 11,590 second-feet, adjusted for diversion and storage.

Extremes.- Maximum discharge during year, 124,000 second-feet Sept. 23 (gage height, 11.45 feet); minimum, 2,880 second-feet Oct. 13 (gage height, 0.30 foot). Flow in canal not included.

1913-38: Maximum discharge, 227,000 second-feet Mar. 19, 1936 (gage height, 16.66 feet); minimum, 1,220 second-feet Sept. 18, 1932. Flow in canals not included.

Maximum stage known, 22.8 feet, from floodmark, caused by ice jam Mar. 8, 1904 (discharge not determined).

Remarks.- Records good except those for periods of ice effect, Dec. 12-18, Jan. 19, 20, and of missing gage heights, Feb. 26-28, which are fair and were computed on basis of records for station at Riegelsville. Last three columns of table of monthly discharge adjusted for diversion to Delaware & Raritan Canal, and for effect of storage in Lake Wallenpaupack, in reservoirs on Mongaup River, and in Lake Hopatcong. Records furnished by U. S. Geological Survey, Trenton, N. J.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|--------|----------|---------|--------|--------|--------|----------------------|--------|-----------------|-------------------|--------|---------|
| 1 | 4,360 | 15,200 | 16,300 | 9,460 | 17,500 | 9,770 | 12,800 | 9,770 | 8,000 | 20,300 | 15,200 | 5,860 |
| 2 | 4,180 | 13,200 | 14,200 | 11,000 | 16,700 | 9,770 | 12,500 | 8,860 | 7,740 | 16,700 | 14,600 | 6,060 |
| 3 | 4,040 | 11,900 | 12,500 | 10,100 | 14,900 | 9,460 | 12,200 | 8,280 | 7,470 | 13,800 | 16,000 | 6,060 |
| 4 | 3,540 | 11,000 | 11,600 | 9,460 | 14,600 | 9,460 | 11,300 | 8,280 | 7,470 | 12,200 | 14,200 | 5,260 |
| 5 | 3,410 | 10,100 | 10,700 | 9,150 | 15,600 | 9,460 | 10,400 | 8,000 | 6,970 | 10,700 | 12,200 | 4,710 |
| 6 | 3,540 | 9,460 | 10,400 | 8,860 | 16,300 | 9,460 | 10,100 | 7,470 | 6,500 | 9,150 | 11,900 | 4,180 |
| 7 | 3,940 | 8,560 | 11,000 | 10,100 | 16,700 | 9,770 | 10,100 | 7,220 | 6,060 | 8,000 | 13,500 | 4,010 |
| 8 | 3,910 | 8,000 | 11,000 | 11,900 | 25,700 | 15,900 | 10,400 | 6,280 | 7,850 | 7,740 | 12,200 | 4,180 |
| 9 | 3,870 | 7,470 | 10,100 | 12,500 | 25,700 | 15,800 | 11,900 | 5,860 | 6,500 | 7,220 | 11,300 | 4,890 |
| 10 | 3,510 | 7,220 | 8,560 | 10,700 | 21,200 | 11,600 | 18,100 | 5,860 | 6,500 | 6,740 | 12,500 | 4,890 |
| 11 | 3,580 | 6,970 | 8,000 | 9,460 | 22,100 | 10,400 | 27,500 | 5,860 | 6,060 | 7,220 | 13,500 | 4,890 |
| 12 | 3,130 | 6,500 | 6,300 | 9,150 | 20,300 | 9,770 | 25,700 | 6,060 | 6,060 | 6,970 | 30,700 | 4,710 |
| 13 | 2,970 | 12,900 | 5,800 | 8,860 | 17,100 | 9,150 | 24,800 | 6,060 | 6,500 | 9,460 | 43,800 | 4,180 |
| 14 | 3,450 | 23,900 | 5,400 | 8,860 | 17,100 | 12,800 | 23,000 | 5,650 | 6,740 | 8,560 | 23,900 | 4,180 |
| 15 | 3,480 | 31,500 | 6,400 | 8,860 | 22,100 | 17,500 | 20,800 | 6,500 | 13,500 | 7,740 | 17,100 | 4,710 |
| 16 | 3,710 | 26,600 | 7,100 | 8,280 | 20,300 | 20,300 | 18,700 | 9,770 | 11,000 | 7,220 | 13,800 | 5,860 |
| 17 | 3,640 | 21,200 | 7,800 | 6,970 | 16,300 | 19,900 | 17,100 | 13,500 | 8,560 | 6,060 | 12,800 | 6,500 |
| 18 | 3,610 | 18,300 | 12,000 | 6,740 | 14,200 | 20,800 | 16,000 | 13,500 | 8,860 | 6,060 | 13,500 | 6,280 |
| 19 | 3,220 | 16,000 | 23,100 | 6,500 | 14,600 | 23,900 | 17,100 | 10,700 | 7,470 | 5,860 | 13,200 | 6,740 |
| 20 | 6,110 | 14,200 | 32,500 | 6,500 | 19,100 | 23,900 | 18,300 | 9,460 | 6,060 | 11,300 | 12,200 | 12,900 |
| 21 | 11,300 | 13,500 | 25,700 | 8,000 | 18,700 | 22,100 | 18,700 | 8,560 | 5,460 | 17,200 | 10,700 | 42,000 |
| 22 | 13,500 | 12,200 | 20,300 | 7,470 | 16,000 | 20,800 | 17,500 | 8,280 | 5,460 | 26,600 | 9,460 | 82,200 |
| 23 | 14,200 | 11,600 | 17,500 | 6,970 | 15,200 | 21,200 | 16,300 | 7,740 | 5,650 | 62,300 | 7,740 | 114,000 |
| 24 | 38,800 | 11,000 | 16,000 | 6,970 | 16,000 | 19,900 | 16,000 | 6,000 | 6,500 | 70,000 | 7,740 | 63,500 |
| 25 | 50,800 | 10,400 | 14,600 | 23,000 | 14,600 | 19,100 | 14,200 | 12,100 | 6,280 | 53,200 | 7,470 | 41,900 |
| 26 | 31,500 | 9,460 | 12,800 | 61,000 | 12,800 | 17,900 | 13,200 | 16,000 | 5,650 | 36,600 | 6,970 | 30,500 |
| 27 | 22,100 | 8,860 | 11,400 | 82,200 | 12,200 | 16,300 | 12,500 | 14,900 | 12,500 | 27,500 | 6,500 | 23,900 |
| 28 | 19,900 | 10,100 | 11,300 | 36,600 | 11,300 | 14,900 | 11,600 | 13,200 | 32,600 | 22,100 | 6,280 | 20,800 |
| 29 | 19,900 | 12,800 | 11,000 | 23,900 | 14,200 | 11,000 | 11,900 | 11,900 | 37,700 | 18,700 | 6,060 | 17,500 |
| 30 | 19,900 | 16,000 | 10,400 | 19,100 | 13,200 | 10,100 | 10,700 | 28,500 | 18,300 | 5,460 | 15,200 | |
| 31 | 18,700 | | 9,460 | 17,900 | | 12,800 | | 9,150 | | 17,500 | 6,650 | |
| Month | | Observed | | | | | Adjusted for storage | | | | | |
| | | Maximum | Minimum | Mean | | | Mean | | Per square mile | Run-off in inches | | |
| October..... | | 50,800 | 2,970 | 10,830 | | | 10,960 | | 1.61 | 1.86 | | |
| November..... | | 31,500 | 6,500 | 13,200 | | | 13,800 | | 2.03 | 2.26 | | |
| December..... | | 32,500 | 5,400 | 12,620 | | | 12,600 | | 1.85 | 2.13 | | |
| January..... | | 62,200 | 6,500 | 14,730 | | | 14,580 | | 2.15 | 2.48 | | |
| February..... | | 25,700 | 11,300 | 17,320 | | | 17,270 | | 2.54 | 2.64 | | |
| March..... | | 23,900 | 9,150 | 15,140 | | | 15,270 | | 2.25 | 2.59 | | |
| April..... | | 27,500 | 10,100 | 15,660 | | | 16,380 | | 2.41 | 2.69 | | |
| May..... | | 16,000 | 5,650 | 9,144 | | | 9,304 | | 1.37 | 1.58 | | |
| June..... | | 37,700 | 5,460 | 9,938 | | | 9,562 | | 1.41 | 1.57 | | |
| July..... | | 70,000 | 5,860 | 18,030 | | | 18,220 | | 2.68 | 3.09 | | |
| August..... | | 43,800 | 5,460 | 13,170 | | | 12,460 | | 1.83 | 2.11 | | |
| September..... | | 114,000 | 4,010 | 18,750 | | | 18,580 | | 2.73 | 3.05 | | |
| The year..... | | 114,000 | 2,970 | 14,010 | | | 14,050 | | 2.07 | 28.05 | | |

DELAWARE RIVER BASIN

Lackawaxen River at West Hawley, Pa.

Location.- Chain gage, lat. 41°28'10", long. 75°11'15", at Riverside Bridge, at West Hawley, Wayne County, half a mile above mouth of Middle Creek. Zero of gage is 885.50 feet above mean sea level (preliminary levels of 1934).

Drainage area.- 206 square miles.

Drainage area.- 206 square miles.

Records available.- October 1931 to September 1938 in reports of U. S. Geological Survey; May 1921 to September 1938 in reports of Pennsylvania Department of Forests and Waters (discontinued).

Average discharge.- 14 years (1924-38), 352 second-feet.

Extremes.—Maximum discharge, 10,100 second-feet Sept. 22 (gage height, 12.5 feet, from graph based on gage readings), from rating curve extended 3,000 second-feet; minimum, 29 second-feet Oct. 9, 18 (gage height, 1.30 feet).

1921-38: Maximum discharge, 14,000 second-feet Mar. 18, 1936 (gage height, 15.32 feet, from floodmarks), from rating curve extended above 3,000 second-feet; minimum, 15 second-feet Sept. 2, 3, 1929 (gage height, 0.74 foot).

Remarks: - Records fair except the

Remarks.—Records fair except those for periods of ice effect, Dec. 9-16, Jan. 10-24, Feb. 28 to Mar. 5, which are poor and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet. 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|------|-------|-------|-------|------|-------|-----|------|-------|-------|-------|
| 1 | 34 | 205 | 252 | 138 | 379 | 160 | 450 | 221 | 136 | 131 | 160 | 51 |
| 2 | 34 | 183 | 199 | 208 | 275 | 190 | 357 | 205 | 126 | 101 | 224 | 66 |
| 3 | 31 | 166 | 157 | 192 | 302 | 190 | 319 | 174 | 126 | 111 | 160 | 50 |
| 4 | 34 | 141 | 131 | 195 | 634 | 120 | 283 | 169 | 121 | 92 | 128 | 55 |
| 5 | 31 | 126 | 157 | 221 | 426 | 170 | 260 | 166 | 109 | 83 | 114 | 52 |
| 6 | 33 | 123 | 157 | 169 | 456 | 722 | 238 | 141 | 101 | 75 | 98 | 55 |
| 7 | 36 | 116 | 169 | 235 | 1,880 | 426 | 242 | 133 | 96 | 70 | 94 | 58 |
| 8 | 41 | 109 | 92 | 426 | 840 | 314 | 271 | 126 | 105 | 64 | 105 | 61 |
| 9 | 29 | 103 | 90 | 335 | 662 | 249 | 701 | 96 | 90 | 72 | 96 | 60 |
| 10 | 42 | 96 | 85 | 270 | 1,000 | 208 | 1,070 | 103 | 77 | 81 | 104 | 41 |
| 11 | 42 | 86 | 80 | 220 | 579 | 177 | 935 | 136 | 77 | 67 | 1,300 | 47 |
| 12 | 40 | 77 | 75 | 180 | 526 | 192 | 1,140 | 121 | 90 | 64 | 743 | 56 |
| 13 | 41 | 320 | 72 | 150 | 1,130 | 218 | 870 | 107 | 126 | 66 | 314 | 45 |
| 14 | 54 | 980 | 70 | 130 | 1,280 | 500 | 691 | 84 | 107 | 60 | 218 | 61 |
| 15 | 39 | 475 | 72 | 120 | 750 | 579 | 579 | 480 | 105 | 56 | 174 | 84 |
| 16 | 33 | 357 | 90 | 110 | 552 | 500 | 526 | 379 | 70 | 56 | 144 | 83 |
| 17 | 33 | 302 | 310 | 100 | 426 | 634 | 450 | 232 | 64 | 47 | 133 | 67 |
| 18 | 30 | 267 | 1,690 | 90 | 379 | 935 | 426 | 174 | 64 | 45 | 146 | 75 |
| 19 | 67 | 252 | 1,440 | 85 | 500 | 750 | 780 | 149 | 58 | 52 | 163 | 101 |
| 20 | 260 | 221 | 780 | 80 | 662 | 750 | 552 | 146 | 58 | 52 | 121 | 520 |
| 21 | 161 | 211 | 579 | 80 | 450 | 720 | 606 | 149 | 50 | 84 | 101 | 3,430 |
| 22 | 190 | 183 | 500 | 85 | 357 | 662 | 579 | 208 | 51 | 1,310 | 101 | 5,020 |
| 23 | 1,450 | 160 | 450 | 95 | 357 | 606 | 526 | 195 | 39 | 2,000 | 86 | 1,760 |
| 24 | 950 | 136 | 323 | 120 | 335 | 606 | 426 | 648 | 36 | 1,340 | 81 | 1,410 |
| 25 | 426 | 133 | 327 | 2,290 | 294 | 500 | 379 | 552 | 35 | 634 | 72 | 750 |
| 26 | 298 | 152 | 314 | 1,740 | 195 | 450 | 335 | 357 | 42 | 426 | 77 | 526 |
| 27 | 232 | 157 | 249 | 720 | 242 | 426 | 298 | 357 | 274 | 310 | 72 | 450 |
| 28 | 310 | 335 | 235 | 450 | 180 | 379 | 264 | 286 | 603 | 235 | 67 | 357 |
| 29 | 606 | 475 | 211 | 379 | | 335 | 256 | 256 | 310 | 199 | 72 | 298 |
| 30 | 357 | 294 | 169 | 357 | | 335 | 242 | 199 | 174 | 174 | 55 | 246 |
| 31 | 238 | | 192 | 500 | | 357 | | 169 | | 136 | 58 | |

| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|-----------|---------|---------|------|-----------------|-------------------|
| October | 1,450 | 29 | 200 | 0.971 | 1.12 |
| November | 980 | 77 | 231 | 1.12 | 1.25 |
| December | 1,690 | 70 | 313 | 1.52 | 1.75 |
| January | 2,290 | 80 | 338 | 1.64 | 1.89 |
| February | 1,880 | 180 | 573 | 2.78 | 2.90 |
| March | 935 | 120 | 431 | 2.09 | 2.41 |
| April | 1,140 | 238 | 502 | 2.44 | 2.72 |
| May | 648 | 84 | 223 | 1.08 | 1.24 |
| June | 603 | 35 | 117 | .568 | .63 |
| July | 2,000 | 45 | 266 | 1.30 | 1.50 |
| August | 1,300 | 55 | 180 | .874 | 1.01 |
| September | 5,020 | 41 | 531 | 2.58 | 2.88 |
| The year | 5,020 | 29 | 323 | 1.57 | 21.30 |

Lackawaxen River at Hawley, Pa.

Location.— Water-stage recorder, lat. $41^{\circ}28'30''$, long. $75^{\circ}10'05''$, at Hawley, Wayne County, 300 feet below mouth of Wallenpaupack Creek and 1,000 feet below highway bridge and site of former gaging station. Zero of gage is 868.74 feet above mean sea level (preliminary levels of 1927).

Drainage area.- 290 square miles (does not include Lake Wallenpaupack drainage area of 228 square miles; flow from which is diverted to hydroelectric plant downstream). Records available August 1, 1940.

Records available.- August to September 1938 in reports of U. S. Geological Survey;
July 1908 to December 1919, August to September 1938 in reports of Pennsylvania
Department of Forests and Waters.

Extremes. - Maximum discharge during period, 11,800 second-feet Sept. 22 (gage height, 7.90 feet), from rating curve extended above 6,000 second-feet; minimum, 41 second-feet Sept. 10 (gage height, 1.42 feet); minimum daily discharge, 48 second-feet Sept. 11.

1908-19, 1938: Maximum discharge, that of Sept. 22, 1938; minimum daily discharge, 7 second-feet Aug. 20, 1911.

Maximum stage known, about 13.9 feet, from floodmarks, Mar. 18, 1936 (discharge not determined).

Remarks.- Records good. Some regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-------------------|------|------|------|------|---------|---------|------|-----------------|------|-------------------|-------|-------|
| 1 | | | | | | | | | | | | 70 |
| 2 | | | | | | | | | | | | 73 |
| 3 | | | | | | | | | | | | 62 |
| 4 | | | | | | | | | | | | 59 |
| 5 | | | | | | | | | | | | 59 |
| 6 | | | | | | | | | | | | 58 |
| 7 | | | | | | | | | | | | 60 |
| 8 | | | | | | | | | | | | 62 |
| 9 | | | | | | | | | | | | 68 |
| 10 | | | | | | | | | | | | 56 |
| 11 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | 1,410 | 48 |
| 13 | | | | | | | | | | | 822 | 54 |
| 14 | | | | | | | | | | | 362 | 58 |
| 15 | | | | | | | | | | | 257 | 65 |
| 16 | | | | | | | | | | | 214 | 86 |
| 16 | | | | | | | | | | | | 106 |
| 17 | | | | | | | | | | | 182 | 75 |
| 18 | | | | | | | | | | | 160 | 82 |
| 19 | | | | | | | | | | | 170 | 116 |
| 20 | | | | | | | | | | | 193 | 534 |
| | | | | | | | | | | | 143 | |
| 21 | | | | | | | | | | | | |
| 22 | | | | | | | | | | | 123 | 4,100 |
| 23 | | | | | | | | | | | 117 | 6,540 |
| 24 | | | | | | | | | | | 101 | 2,180 |
| 25 | | | | | | | | | | | 92 | 1,360 |
| | | | | | | | | | | | 86 | 890 |
| 26 | | | | | | | | | | | | |
| 27 | | | | | | | | | | | 91 | 632 |
| 28 | | | | | | | | | | | 75 | 504 |
| 29 | | | | | | | | | | | 70 | 427 |
| 30 | | | | | | | | | | | 74 | 358 |
| 31 | | | | | | | | | | | 70 | 305 |
| | | | | | | | | | | | 66 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October..... | | | | | | | | | | | | |
| November..... | | | | | | | | | | | | |
| December..... | | | | | | | | | | | | |
| January..... | | | | | | | | | | | | |
| February..... | | | | | | | | | | | | |
| March..... | | | | | | | | | | | | |
| April..... | | | | | | | | | | | | |
| May..... | | | | | | | | | | | | |
| June..... | | | | | | | | | | | | |
| July..... | | | | | | | | | | | | |
| August..... 11-31 | | | | | 1,410 | 66 | 232 | 0.800 | | 0.63 | | |
| September..... | | | | | 6,540 | 48 | 638 | 2.20 | | 2.46 | | |
| The year..... | | | | | | | | | | | | |

Wallenpaupack Creek at Wilsonville, Pa.

Location.- At hydroelectric plant of Pennsylvania Power & Light Co., at lower end of penstock, at Hawley, 1½ miles below the dam which is at lat. 41°27'35", long. 75°11'05", at Wilsonville, Wayne County.

Drainage area.- 228 square miles.

Records available.- October 1918 to September 1921, June 1926 to September 1938 in reports of U. S. Geological Survey; July 1908 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 22 years (1913-22, 1925-38), 375 second-feet.

Remarks.- Records good. Flow computed from output of generators. No discharge over spillway during year. Last three columns of monthly table corrected for storage in Lake Wallenpaupack; no corrections made for evaporation. Discharge measurements, records of power-plant operations, and water-surface elevations in lake and tailrace furnished by Pennsylvania Power & Light Co.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|------|------|------|------|------|------|-----|-------|------|-------|-------|
| 1 | 525 | 52 | 427 | 0 | 728 | 703 | 8.6 | 198 | 553 | 80 | 443 | 892 |
| 2 | 307 | 82 | 457 | 0 | 749 | 673 | 14 | 522 | 575 | 0 | 376 | 649 |
| 3 | 330 | 96 | 360 | 403 | 789 | 669 | 0 | 522 | 474 | 0 | 296 | 0 |
| 4 | 833 | 78 | 0 | 626 | 696 | 571 | 112 | 381 | 157 | 0 | 386 | 60 |
| 5 | 917 | 84 | 0 | 816 | 103 | 81 | 413 | 90 | 0 | 36 | 131 | 0 |
| 6 | 951 | 55 | 487 | 827 | 0 | 0 | 546 | 15 | 402 | 563 | 681 | 865 |
| 7 | 623 | 0 | 412 | 830 | 694 | 682 | 328 | 0 | 745 | 608 | 0 | 890 |
| 8 | 721 | 122 | 92 | 254 | 786 | 698 | 144 | 115 | 980 | 805 | 871 | 785 |
| 9 | 230 | 217 | 408 | 0 | 812 | 614 | 107 | 3.8 | 1,020 | 845 | 811 | 803 |
| 10 | 0 | 81 | 331 | 767 | 767 | 746 | 0 | 465 | 878 | 181 | 587 | 570 |
| 11 | 670 | 79 | 0 | 834 | 826 | 373 | 337 | 592 | 102 | 844 | 413 | 159 |
| 12 | 587 | 101 | 0 | 739 | 154 | 61 | 392 | 486 | 235 | 833 | 22 | 751 |
| 13 | 916 | 0 | 568 | 834 | 0 | 0 | 143 | 545 | 842 | 433 | 0 | 806 |
| 14 | 776 | 0 | 587 | 780 | 918 | 806 | 283 | 122 | 659 | 514 | 198 | 764 |
| 15 | 858 | 288 | 693 | 115 | 816 | 524 | 82 | 0 | 560 | 142 | 927 | 850 |
| 16 | 304 | 282 | 476 | 0 | 777 | 673 | 176 | 0 | 553 | 57 | 997 | 757 |
| 17 | 227 | 285 | 564 | 839 | 898 | 633 | 0 | 137 | 569 | 180 | 1,010 | 496 |
| 18 | 908 | 173 | 93 | 740 | 939 | 195 | 54 | 327 | 111 | 967 | 568 | 270 |
| 19 | 580 | 298 | 0 | 916 | 370 | 30 | 550 | 585 | 0 | 506 | 308 | 896 |
| 20 | 160 | 38 | 488 | 690 | 114 | 0 | 505 | 400 | 950 | 781 | 644 | 470 |
| 21 | 69 | 0 | 490 | 901 | 908 | 106 | 371 | 10 | 948 | 506 | 102 | 413 |
| 22 | 78 | 295 | 493 | 197 | 829 | 308 | 506 | 0 | 984 | 416 | 762 | 198 |
| 23 | 4.8 | 372 | 496 | 0 | 953 | 385 | 98 | 417 | 932 | 82 | 793 | 279 |
| 24 | 0 | 290 | 106 | 744 | 757 | 307 | 0 | 536 | 1,050 | 0 | 813 | 86 |
| 25 | 46 | 0 | 0 | 739 | 781 | 94 | 444 | 348 | 913 | 306 | 813 | 32 |
| 26 | 69 | 63 | 0 | 760 | 93 | 63 | 530 | 559 | 116 | 404 | 772 | 433 |
| 27 | 85 | 132 | 375 | 749 | 0 | 0 | 565 | 476 | 483 | 338 | 747 | 359 |
| 28 | 69 | 0 | 593 | 754 | 737 | 162 | 424 | 0 | 588 | 303 | 161 | 251 |
| 29 | 63 | 510 | 562 | 96 | 404 | 335 | 0 | 599 | 430 | 897 | 290 | 290 |
| 30 | 31 | 364 | 564 | 0 | 424 | 88 | 29 | 644 | 63 | 860 | 436 | 436 |
| 31 | 0 | 201 | 201 | 784 | 260 | 260 | 355 | 0 | 0 | 933 | 0 | 0 |

| Month | Observed | | | Adjusted for storage | | |
|----------------|----------|---------|------|----------------------|-----------------|-------------------|
| | Maximum | Minimum | Mean | Mean | Per square mile | Run-off in inches |
| October..... | 951 | 0 | 385 | 380 | 1.67 | 1.92 |
| November..... | 510 | 0 | 148 | 510 | 2.24 | 2.50 |
| December..... | 693 | 0 | 333 | 384 | 1.60 | 1.94 |
| January..... | 916 | 0 | 537 | 440 | 1.93 | 2.22 |
| February..... | 953 | 0 | 607 | 507 | 2.22 | 2.51 |
| March..... | 806 | 0 | 363 | 402 | 1.76 | 2.05 |
| April..... | 565 | 0 | 252 | 617 | 2.71 | 3.02 |
| May..... | 592 | 0 | 259 | 254 | 1.11 | 1.28 |
| June..... | 1,050 | 0 | 587 | 105 | 1.461 | .51 |
| July..... | 967 | 0 | 362 | 362 | 1.59 | 1.83 |
| August..... | 1,010 | 0 | 559 | 210 | .081 | .09 |
| September..... | 896 | 0 | 484 | 210 | .921 | 1.03 |
| The year..... | 1,050 | 0 | 405 | 346 | 1.52 | 20.58 |

Bushkill Creek at Shoemakers, Pa.

Location.- Water-stage recorder, lat. 41°05'15", long. 75°02'20", at highway bridge three-quarters of a mile northwest of Shoemakers, Monroe County, and 2 miles southwest of Bushkill. Prior to Aug. 12, 1938, chain gage at same site and datum. Zero of gage is 421.13 feet above mean sea level (preliminary levels of 1912).

Drainage area.- 117 square miles.

Records available.- October 1918 to September 1920, October 1931 to September 1938 in reports of U. S. Geological Survey; September 1908 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 26 years (1908-16, 1920-38), 236 second-feet.

Extremes.- Maximum discharge during year, 1,870 second-feet Jan. 25 (gage height, 4.8 feet, from graph based on gage readings); minimum, 35 second-feet Oct. 9 (gage height, 1.28 feet).

1908-38: Maximum discharge, 3,910 second-feet July 24, 1920 (gage height, 7.2 feet, from graph based on gage readings), from rating curve extended above 1,600 second-feet; minimum, 4 second-feet Sept. 21, 26, 1932 (gage height, 0.90 foot).

Remarks.- Records fair except those for periods of ice effect, Dec. 10-19, Jan. 10-24, which are poor and were determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Chain gage read twice daily. Some regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|------|------|-------|------|------|------|-----|-------|------|------|-------|
| 1 | 42 | 360 | 324 | 217 | 382 | 183 | 242 | 201 | 192 | 405 | 273 | 73 |
| 2 | 40 | 336 | 284 | 210 | 312 | 183 | 220 | 186 | 176 | 344 | 344 | 68 |
| 3 | 40 | 308 | 266 | 198 | 340 | 186 | 207 | 183 | 228 | 284 | 273 | 61 |
| 4 | 37 | 284 | 248 | 183 | 382 | 161 | 195 | 175 | 204 | 231 | 231 | 64 |
| 5 | 37 | 262 | 228 | 204 | 312 | 189 | 180 | 164 | 183 | 198 | 217 | 61 |
| 6 | 40 | 242 | 234 | 198 | 296 | 217 | 175 | 158 | 166 | 172 | 186 | 55 |
| 7 | 42 | 220 | 248 | 201 | 532 | 204 | 183 | 146 | 161 | 148 | 169 | 53 |
| 8 | 40 | 207 | 224 | 220 | 405 | 192 | 186 | 136 | 180 | 136 | 164 | 53 |
| 9 | 35 | 195 | 195 | 172 | 382 | 175 | 418 | 136 | 176 | 123 | 153 | 47 |
| 10 | 42 | 183 | 180 | 180 | 382 | 169 | 480 | 136 | 169 | 143 | 133 | 45 |
| 11 | 50 | 172 | 170 | 170 | 328 | 153 | 455 | 126 | 169 | 133 | 231 | 44 |
| 12 | 47 | 164 | 160 | 170 | 312 | 161 | 505 | 116 | 164 | 207 | 164 | 42 |
| 13 | 47 | 455 | 150 | 170 | 324 | 158 | 480 | 107 | 220 | 158 | 158 | 44 |
| 14 | 45 | 855 | 150 | 160 | 360 | 214 | 455 | 112 | 169 | 143 | 121 | 45 |
| 15 | 45 | 715 | 160 | 160 | 324 | 231 | 405 | 374 | 138 | 138 | 110 | 82 |
| 16 | 42 | 590 | 200 | 150 | 266 | 248 | 382 | 340 | 116 | 114 | 101 | 86 |
| 17 | 40 | 505 | 500 | 140 | 282 | 316 | 348 | 276 | 103 | 97 | 107 | 66 |
| 18 | 40 | 430 | 950 | 130 | 259 | 382 | 328 | 234 | 121 | 92 | 155 | 66 |
| 19 | 141 | 405 | 730 | 120 | 273 | 360 | 405 | 204 | 112 | 178 | 186 | 91 |
| 20 | 455 | 382 | 455 | 110 | 344 | 360 | 344 | 204 | 97 | 161 | 172 | 346 |
| 21 | 336 | 348 | 360 | 120 | 270 | 348 | 430 | 204 | 80 | 163 | 146 | 1,050 |
| 22 | 252 | 312 | 340 | 140 | 245 | 336 | 430 | 196 | 75 | 402 | 128 | 1,310 |
| 23 | 532 | 270 | 324 | 170 | 259 | 324 | 382 | 183 | 92 | 851 | 114 | 925 |
| 24 | 855 | 262 | 312 | 230 | 256 | 328 | 356 | 334 | 92 | 750 | 101 | 716 |
| 25 | 650 | 242 | 312 | 1,390 | 234 | 304 | 312 | 356 | 77 | 532 | 90 | 532 |
| 26 | 532 | 224 | 266 | 1,170 | 201 | 288 | 276 | 312 | 84 | 382 | 84 | 430 |
| 27 | 455 | 224 | 252 | 820 | 220 | 266 | 256 | 300 | 560 | 320 | 80 | 352 |
| 28 | 532 | 382 | 242 | 560 | 175 | 245 | 238 | 270 | 1,100 | 264 | 73 | 300 |
| 29 | 560 | 382 | 224 | 505 | 231 | 228 | 256 | 256 | 750 | 234 | 70 | 259 |
| 30 | 480 | 352 | 214 | 505 | 228 | 210 | 234 | 234 | 505 | 280 | 68 | 238 |
| 31 | 430 | 204 | 204 | 505 | 238 | 210 | 210 | 210 | 238 | 238 | 66 | 66 |

| Month | Maximum | | | Minimum | | |
|----------------|---------|---------|------|-----------------|-------------------|--|
| | Maximum | Minimum | Mean | Per square mile | Run-off in inches | |
| October..... | 855 | 35 | 225 | 1.92 | 2.21 | |
| November..... | 855 | 164 | 342 | 2.92 | 3.26 | |
| December..... | 950 | 150 | 294 | 2.51 | 2.89 | |
| January..... | 1,390 | 110 | 309 | 2.64 | 3.04 | |
| February..... | 532 | 175 | 308 | 2.63 | 2.74 | |
| March..... | 382 | 153 | 244 | 2.09 | 2.41 | |
| April..... | 505 | 175 | 323 | 2.78 | 3.08 | |
| May..... | 374 | 107 | 212 | 1.81 | 2.09 | |
| June..... | 1,100 | 75 | 222 | 1.90 | 2.12 | |
| July..... | 851 | 92 | 259 | 2.21 | 2.55 | |
| August..... | 344 | 66 | 150 | 1.28 | 1.48 | |
| September..... | 1,310 | 42 | 253 | 2.16 | 2.41 | |
| The year..... | 1,390 | 35 | 261 | 2.23 | 30.28 | |

DELAWARE RIVER BASIN

McMichaels Creek at Stroudsburg, Pa.

Location.- Chain gage, lat. 40°58'40", long. 75°12'30", at railroad bridge at Wilkes-Barre & Eastern Railroad car shops three-quarters of a mile southwest of Stroudsburg, Monroe County. Zero of gage is 403.92 feet above mean sea level (preliminary levels of 1912).

Drainage area.- 64.4 square miles.

Records available: - Quarterly files:
in reports of U. S. Geological Survey; August 1911 to September 1938 in reports
of Pennsylvania Department of Forests and Waters (discontinued).
Abstracts of 1911-1938 in reports of U. S. Geological Survey.

Average discharge.- 25 years (1911-18, 1920-38), 122 second-feet.

Extremes. - Maximum discharge during year, 1,710 second-feet Jan. 25 (gage height, 7.0 feet, from graph based on gage readings), from rating curve extended above 970 second-foot; minimum, 16 second-feet June 21 (gage height 2.62 feet).

1911-38: Maximum discharge, 4,670 second-feet Mar. 12, 1936 (gage height, 10.5 feet, from floodmarks), from rating curve extended above 800 second-feet; minimum, 7.2 second-feet Nov. 30, 1930 (gage height, 2.34 feet); minimum daily discharge, 9.0 second-feet Nov. 30, 1930.

Remarks.— Records fair except those for periods of ice effect, Dec. 10-16, Jan. 10-24, which are poor and were determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Discharge for day of missing gage record, Sept. 1, determined by comparison with records for station on Bushkill Creek at Shoemakers. Gage read twice daily. Regulation at low stages from operation of power plants upstream.

Daily and monthly discharge, in second-feet. 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|-----------|------|------|------|-------|---------|------|---------|-----|------|------|-----------------|-------|-------------------|--|
| 1 | 42 | 166 | 115 | 132 | 166 | 132 | 120 | 103 | 75 | 262 | 177 | 76 | | |
| 2 | 47 | 151 | 111 | 123 | 177 | 120 | 108 | 95 | 74 | 256 | 188 | 72 | | |
| 3 | 38 | 144 | 104 | 119 | 155 | 120 | 103 | 93 | 103 | 188 | 136 | 65 | | |
| 4 | 39 | 134 | 100 | 102 | 177 | 118 | 95 | 95 | 82 | 155 | 122 | 63 | | |
| 5 | 39 | 121 | 100 | 95 | 142 | 122 | 91 | 88 | 77 | 144 | 114 | 60 | | |
| 6 | 35 | 117 | 113 | 90 | 136 | 177 | 88 | 84 | 74 | 126 | 130 | 52 | | |
| 7 | 38 | 108 | 111 | 186 | 303 | 130 | 104 | 79 | 70 | 114 | 144 | 57 | | |
| 8 | 35 | 104 | 97 | 151 | 177 | 122 | 103 | 74 | 91 | 106 | 118 | 62 | | |
| 9 | 34 | 98 | 90 | 117 | 166 | 114 | 315 | 75 | 68 | 99 | 126 | 52 | | |
| 10 | 38 | 90 | 83 | 100 | 177 | 110 | 256 | 81 | 60 | 118 | 103 | 48 | | |
| 11 | 40 | 86 | 76 | 93 | 151 | 103 | 224 | 77 | 60 | 93 | 166 | 45 | | |
| 12 | 36 | 83 | 70 | 88 | 142 | 110 | 224 | 67 | 70 | 114 | 110 | 51 | | |
| 13 | 38 | 556 | 66 | 90 | 188 | 112 | 212 | 63 | 77 | 90 | 95 | 51 | | |
| 14 | 36 | 427 | 64 | 86 | 177 | 155 | 200 | 72 | 70 | 84 | 88 | 51 | | |
| 15 | 33 | 320 | 65 | 82 | 155 | 188 | 177 | 200 | 62 | 81 | 84 | 116 | | |
| 16 | 33 | 249 | 70 | 78 | 144 | 200 | 166 | 99 | 57 | 74 | 82 | 84 | | |
| 17 | 31 | 212 | 289 | 76 | 142 | 236 | 153 | 86 | 57 | 70 | 86 | 58 | | |
| 18 | 34 | 186 | 530 | 70 | 130 | 262 | 151 | 70 | 57 | 67 | 288 | 65 | | |
| 19 | 157 | 161 | 197 | 60 | 147 | 236 | 188 | 68 | 18 | 149 | 166 | 96 | | |
| 20 | 287 | 166 | 177 | 56 | 249 | 224 | 142 | 70 | 19 | 132 | 134 | 440 | | |
| 21 | 137 | 146 | 156 | 56 | 149 | 212 | 155 | 70 | 16 | 144 | 116 | 866 | | |
| 22 | 102 | 130 | 146 | 58 | 132 | 188 | 166 | 74 | 51 | 304 | 106 | 1,000 | | |
| 23 | 519 | 121 | 141 | 62 | 144 | 177 | 142 | 63 | 101 | 648 | 99 | 502 | | |
| 24 | 407 | 111 | 119 | 70 | 166 | 177 | 128 | 103 | 86 | 530 | 90 | 348 | | |
| 25 | 287 | 104 | 123 | 1,130 | 142 | 155 | 128 | 99 | 58 | 318 | 84 | 262 | | |
| 26 | 227 | 100 | 115 | 544 | 122 | 147 | 122 | 81 | 161 | 249 | 81 | 224 | | |
| 27 | 194 | 100 | 100 | 348 | 130 | 140 | 114 | 93 | 453 | 212 | 77 | 200 | | |
| 28 | 425 | 177 | 104 | 303 | 124 | 128 | 114 | 77 | 993 | 177 | 74 | 177 | | |
| 29 | 265 | 177 | 100 | 275 | | 120 | 108 | 99 | 502 | 166 | 70 | 155 | | |
| 30 | 230 | 126 | 93 | 200 | | 118 | 104 | 84 | 332 | 166 | 67 | 147 | | |
| 31 | 194 | | 95 | 224 | | 122 | | 81 | | 134 | 67 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October | | | | | 519 | | 31 | | 132 | | 2.05 | | 2.36 | |
| November | | | | | 556 | | 83 | | 166 | | 2.58 | | 2.83 | |
| December | | | | | 530 | | 64 | | 126 | | 1.96 | | 2.26 | |
| January | | | | | 1,130 | | 56 | | 170 | | 2.64 | | 3.04 | |
| February | | | | | 303 | | 122 | | 161 | | 2.50 | | 2.60 | |
| March | | | | | 262 | | 103 | | 154 | | 2.39 | | 2.76 | |
| April | | | | | 313 | | 88 | | 149 | | 2.31 | | 2.58 | |
| May | | | | | 200 | | 63 | | 85.9 | | 1.33 | | 1.53 | |
| June | | | | | 993 | | 16 | | 136 | | 2.11 | | 2.55 | |
| July | | | | | 648 | | 67 | | 179 | | 2.78 | | 3.20 | |
| August | | | | | 288 | | 67 | | 116 | | 1.80 | | 2.08 | |
| September | | | | | 1,000 | | 45 | | 185 | | 2.87 | | 3.20 | |
| The year | | | | | 1,130 | | 16 | | 146 | | 2.27 | | 30.84 | |

Lehigh River at Tannery. Pa.

Location.- Water-stage recorder, lat. 41°02'25", long. 75°45'50", 600 feet above highway bridge at Tannery, Carbon County, and 1½ miles above mouth of Black Creek. Zero of gage is 1,041.80 feet (revised) above mean sea level (general adjustment of 1929).

Drainage area.- 322 square miles.

Records available: - Square miles.
in reports of U. S. Geological Survey; June 1914 to September 1938 in reports
of Pennsylvania Department of Forests and Waters.

Average discharge.- 19 years (1914-15, 1919-26, 1927-38). 674 second-feet

Extremes.—Maximum discharge during year, 7,900 second-foot Oct. 23 (gage height, 8.82 feet); minimum, 22 second-foot Oct. 9 (gage height, 1.24 feet); minimum daily discharge, 112 second-foot Oct. 9.

1914-38: Maximum discharge, 21,800 second-feet Mar. 12, 1936 (gage height, 13.34 feet); minimum, 0.9 second-foot Sept. 28, 1936 (gage height, 1.07 feet); minimum daily discharge, 7.2 second-feet Aug. 5, 1936.

Remarks.- Records good except those for periods of ice effect, Dec. 9-17, Jan. 10-24, Feb. 26 to Mar. 1, which are fair and were determined from gage heights, weather records, and by comparison with records for station at Bethlehem. Regulation from operation of power plants upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|-------|-------|-------|-------|---------|-------|---------|-------|-------|-------|-----------------|-------------------|
| 1 | 137 | 1,060 | 836 | 708 | 804 | 450 | 622 | 482 | 456 | 997 | 876 | 183 |
| 2 | 126 | 924 | 708 | 684 | 780 | 515 | 578 | 450 | 420 | 924 | 1,210 | 171 |
| 3 | 137 | 828 | 622 | 608 | 708 | 502 | 522 | 452 | 489 | 748 | 964 | 156 |
| 4 | 147 | 740 | 557 | 508 | 876 | 486 | 422 | 450 | 470 | 592 | 764 | 163 |
| 5 | 144 | 668 | 536 | 496 | 772 | 444 | 450 | 432 | 438 | 626 | 622 | 163 |
| 6 | 147 | 608 | 529 | 450 | 748 | 608 | 438 | 402 | 463 | 478 | 522 | 150 |
| 7 | 140 | 564 | 522 | 608 | 1,640 | 650 | 470 | 374 | 396 | 374 | 476 | 151 |
| 8 | 137 | 529 | 470 | 748 | 1,290 | 571 | 470 | 340 | 438 | 340 | 428 | 167 |
| 9 | 112 | 496 | 450 | 567 | 1,120 | 502 | 1,020 | 340 | 420 | 330 | 402 | 151 |
| 10 | 148 | 463 | 400 | 530 | 1,320 | 470 | 1,620 | 362 | 357 | 450 | 379 | 140 |
| 11 | 178 | 426 | 350 | 500 | 1,080 | 420 | 1,530 | 357 | 330 | 402 | 570 | 137 |
| 12 | 155 | 414 | 360 | 450 | 916 | 414 | 1,750 | 330 | 330 | 402 | 536 | 133 |
| 13 | 144 | 1,040 | 350 | 430 | 908 | 476 | 1,620 | 309 | 368 | 352 | 432 | 147 |
| 14 | 147 | 1,840 | 330 | 410 | 1,060 | 835 | 1,360 | 299 | 352 | 309 | 374 | 155 |
| 15 | 183 | 1,530 | 330 | 400 | 956 | 1,130 | 1,190 | 826 | 309 | 304 | 335 | 242 |
| 16 | 187 | 1,180 | 350 | 380 | 820 | 980 | 1,040 | 1,050 | 278 | 273 | 304 | 217 |
| 17 | 171 | 972 | 390 | 370 | 740 | 1,060 | 908 | 780 | 269 | 240 | 283 | 187 |
| 18 | 151 | 852 | 1,530 | 350 | 652 | 1,150 | 892 | 600 | 293 | 222 | 335 | 195 |
| 19 | 228 | 740 | 1,660 | 320 | 700 | 1,070 | 1,120 | 515 | 288 | 293 | 330 | 222 |
| 20 | 1,020 | 692 | 1,240 | 340 | 1,010 | 1,030 | 1,020 | 482 | 269 | 352 | 288 | 674 |
| 21 | 923 | 645 | 988 | 330 | 876 | 1,010 | 948 | 476 | 240 | 408 | 259 | 2,100 |
| 22 | 641 | 592 | 844 | 320 | 772 | 940 | 964 | 450 | 222 | 2,640 | 235 | 3,540 |
| 23 | 5,090 | 543 | 748 | 320 | 740 | 884 | 940 | 426 | 217 | 3,960 | 222 | 2,110 |
| 24 | 3,230 | 502 | 638 | 400 | 700 | 900 | 812 | 1,460 | 217 | 2,810 | 204 | 1,530 |
| 25 | 2,520 | 502 | 615 | 4,850 | 645 | 828 | 708 | 1,660 | 213 | 1,790 | 186 | 1,090 |
| 26 | 1,750 | 496 | 571 | 3,760 | 540 | 764 | 645 | 1,220 | 364 | 1,290 | 183 | 836 |
| 27 | 1,360 | 557 | 515 | 2,020 | 560 | 700 | 592 | 1,030 | 1,540 | 988 | 179 | 684 |
| 28 | 1,630 | 890 | 496 | 1,360 | 500 | 638 | 550 | 860 | 3,010 | 780 | 171 | 600 |
| 29 | 1,930 | 1,180 | 463 | 1,170 | | 585 | 550 | 724 | 1,830 | 820 | 171 | 508 |
| 30 | 1,620 | 997 | 438 | 997 | | 571 | 515 | 615 | 1,320 | 972 | 167 | 450 |
| 31 | 1,290 | | 426 | 924 | | 592 | | 515 | | 764 | 167 | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | Run-off in inches |
| October..... | | | | | 5,090 | | 112 | | 836 | | 2.60 | 3.00 |
| November..... | | | | | 1,840 | | 414 | | 782 | | 2.43 | 2.71 |
| December..... | | | | | 1,660 | | 330 | | 615 | | 1.91 | 2.20 |
| January..... | | | | | 4,850 | | 320 | | 848 | | 2.63 | 3.03 |
| February..... | | | | | 1,640 | | 500 | | 865 | | 2.69 | 2.80 |
| March..... | | | | | 1,150 | | 414 | | 715 | | 2.22 | 2.56 |
| April..... | | | | | 1,750 | | 438 | | 878 | | 2.73 | 3.05 |
| May..... | | | | | 1,660 | | 299 | | 614 | | 1.91 | 2.20 |
| June..... | | | | | 3,010 | | 213 | | 557 | | 1.73 | 1.93 |
| July..... | | | | | 3,960 | | 222 | | 846 | | 2.63 | 3.03 |
| August..... | | | | | 1,210 | | 167 | | 406 | | 1.26 | 1.45 |
| September..... | | | | | 3,340 | | 133 | | 572 | | 1.78 | 1.99 |
| The year..... | | | | | 5,090 | | 112 | | 710 | | 2.20 | 29.95 |

Lehigh River at Bethlehem, Pa.

Location.— Water-stage recorder, lat. 40°37'05" (revised), long. 75°21'55", 1,650 feet (revised) above Minsi Trail Bridge, at Bethlehem, Northampton County, and 2,400 feet (revised) below mouth of Monocacy Creek. Zero of gage is 208.60 feet (revised) above mean sea level (general adjustment of 1929).

Drainage area.— 1,280 square miles.

Records available.— September 1902 to February 1905, April 1909 to December 1913, October 1918 to September 1921, October 1928 to September 1938 in reports of U. S. Geological Survey; September 1902 to February 1905, April 1909 to September 1938 in reports of Pennsylvania Department of Forests and Waters. Records prior to October 1928 obtained at New Street Bridge 4,130 (revised) feet upstream.

Extremes.— Maximum discharge during year, 22,400 second-feet Oct. 23 (gage height, 9.37 feet); minimum, 473 second-feet Oct. 9 (gage height, 2.22 feet); minimum daily discharge, 554 second-feet Oct. 9.

1902-5, 1909-38: Maximum discharge, 64,800 second-feet Aug. 24, 1933 (gage height, 18.70 feet); minimum, 160 second-feet Oct. 15, 1910 (gage height, 1.33 feet, former site and datum).

Maximum stage known, 24.9 feet (revised), from floodmark, former site and datum, Feb. 28, 1902 (discharge, about 85,000 second-feet).

Extremes do not include flow in Lehigh Canal.

Remarks.— Records good. Regulation from power operations upstream. Daily and monthly records include flow in Lehigh Canal.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|-------|---------|--------|-------|-------|-----------------|-------|-------------------|--------|-------|--------|
| 1 | 702 | 3,910 | 2,620 | 2,620 | 3,740 | 1,880 | 2,170 | 1,800 | 1,720 | 4,310 | 2,980 | 1,200 |
| 2 | 647 | 3,370 | 2,300 | 3,340 | 2,960 | 2,280 | 2,090 | 1,730 | 1,620 | 3,760 | 4,170 | 1,080 |
| 3 | 635 | 3,110 | 2,180 | 2,960 | 2,720 | 2,130 | 1,990 | 1,630 | 1,720 | 3,100 | 3,360 | 945 |
| 4 | 690 | 2,630 | 2,030 | 2,600 | 3,470 | 1,810 | 1,920 | 1,630 | 1,700 | 2,510 | 2,740 | 934 |
| 5 | 689 | 2,310 | 1,980 | 2,380 | 3,080 | 1,920 | 1,760 | 1,630 | 1,580 | 2,160 | 2,400 | 910 |
| 6 | 712 | 2,160 | 2,070 | 2,200 | 2,600 | 2,280 | 1,730 | 1,520 | 1,560 | 2,060 | 2,660 | 908 |
| 7 | 724 | 2,050 | 2,000 | 2,490 | 7,290 | 2,390 | 1,810 | 1,410 | 1,480 | 1,780 | 3,230 | 883 |
| 8 | 654 | 1,970 | 1,810 | 2,840 | 4,580 | 2,130 | 1,840 | 1,340 | 1,520 | 1,630 | 2,510 | 944 |
| 9 | 578 | 1,870 | 1,720 | 2,380 | 3,880 | 1,990 | 3,200 | 1,350 | 1,480 | 1,520 | 2,300 | 919 |
| 10 | 618 | 1,790 | 1,460 | 2,070 | 3,880 | 1,900 | 5,320 | 1,410 | 1,310 | 1,620 | 2,020 | 811 |
| 11 | 662 | 1,690 | 1,280 | 2,110 | 3,470 | 1,820 | 4,870 | 1,370 | 1,260 | 1,570 | 2,300 | 801 |
| 12 | 695 | 1,570 | 1,320 | 2,040 | 3,080 | 1,840 | 4,870 | 1,300 | 1,340 | 2,260 | 2,190 | 809 |
| 13 | 662 | 2,960 | 1,320 | 2,000 | 2,960 | 1,820 | 4,870 | 1,230 | 1,420 | 1,830 | 1,860 | 883 |
| 14 | 628 | 5,040 | 1,210 | 1,900 | 3,340 | 2,800 | 4,290 | 1,210 | 1,380 | 1,520 | 1,690 | 871 |
| 15 | 617 | 4,460 | 1,250 | 1,760 | 3,210 | 4,580 | 3,740 | 2,000 | 1,200 | 1,540 | 1,600 | 1,380 |
| 16 | 606 | 3,760 | 1,500 | 1,580 | 2,600 | 4,440 | 3,470 | 2,500 | 1,080 | 1,340 | 1,500 | 1,440 |
| 17 | 631 | 3,100 | 1,700 | 1,680 | 2,380 | 5,020 | 3,080 | 2,010 | 1,000 | 1,220 | 1,920 | 1,020 |
| 18 | 663 | 2,860 | 4,280 | 1,550 | 2,280 | 5,320 | 3,080 | 1,680 | 1,770 | 1,300 | 2,610 | 984 |
| 19 | 1,120 | 2,510 | 5,170 | 1,210 | 2,380 | 4,870 | 3,470 | 1,520 | 1,140 | 1,900 | 1,960 | 1,350 |
| 20 | 3,770 | 2,400 | 4,150 | 1,330 | 3,680 | 4,440 | 3,210 | 1,440 | 1,060 | 4,300 | 1,620 | 3,200 |
| 21 | 3,110 | 2,220 | 3,470 | 1,460 | 3,470 | 4,150 | 3,080 | 1,420 | 993 | 5,850 | 1,470 | 7,850 |
| 22 | 2,180 | 2,110 | 3,080 | 1,460 | 2,960 | 3,740 | 2,960 | 1,400 | 983 | 8,840 | 1,410 | 13,200 |
| 23 | 9,450 | 1,940 | 2,720 | 1,500 | 2,960 | 3,600 | 2,960 | 1,340 | 1,070 | 12,000 | 1,340 | 8,430 |
| 24 | 17,300 | 1,830 | 2,380 | 1,600 | 3,080 | 3,340 | 2,600 | 2,560 | 1,160 | 12,400 | 1,260 | 5,970 |
| 25 | 10,200 | 1,740 | 2,280 | 12,400 | 2,840 | 3,210 | 2,380 | 4,160 | 960 | 7,920 | 1,200 | 4,470 |
| 26 | 7,250 | 1,760 | 2,200 | 15,000 | 2,490 | 2,840 | 2,220 | 3,230 | 1,900 | 5,970 | 1,160 | 3,500 |
| 27 | 5,810 | 1,750 | 2,040 | 8,920 | 2,490 | 2,720 | 2,120 | 2,860 | 6,400 | 4,740 | 1,160 | 2,990 |
| 28 | 5,810 | 2,380 | 1,940 | 6,410 | 2,280 | 2,600 | 2,030 | 2,510 | 15,400 | 3,900 | 1,110 | 2,870 |
| 29 | 6,120 | 3,490 | 1,890 | 5,020 | | 2,280 | 1,940 | 2,400 | 8,590 | 3,360 | 1,070 | 2,410 |
| 30 | 5,350 | 2,980 | 1,780 | 4,290 | | 2,170 | 1,880 | 2,090 | 5,640 | 4,170 | 1,040 | 2,180 |
| 31 | 4,610 | | 1,730 | 4,150 | | 2,110 | | 1,880 | | 3,230 | 1,020 | |
| Month | | | | | | | | | | | | |
| | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | | | |
| October | 17,300 | | 578 | | 3,029 | | 2.37 | | 2.73 | | | |
| November | 5,040 | | 1,570 | | 2,591 | | 2.02 | | 2.25 | | | |
| December | 5,170 | | 1,210 | | 2,221 | | 1.74 | | 2.01 | | | |
| January | 15,000 | | 1,210 | | 3,395 | | 2.65 | | 2.06 | | | |
| February | 7,290 | | 2,280 | | 3,220 | | 2.52 | | 2.62 | | | |
| March | 5,320 | | 1,810 | | 2,916 | | 2.28 | | 2.63 | | | |
| April | 5,320 | | 1,730 | | 2,898 | | 2.26 | | 2.52 | | | |
| May | 4,160 | | 1,210 | | 1,857 | | 1.45 | | 1.67 | | | |
| June | 15,400 | | 960 | | 2,381 | | 1.86 | | 2.08 | | | |
| July | 12,400 | | 1,220 | | 3,729 | | 2.91 | | 3.36 | | | |
| August | 4,170 | | 1,020 | | 1,963 | | 1.53 | | 1.76 | | | |
| September | 13,200 | | 801 | | 2,537 | | 1.98 | | 2.21 | | | |
| The year | 17,300 | | 578 | | 2,726 | | 2.13 | | 28.90 | | | |

Tohickon Creek near Pipersville, Pa.

Location.— Water-stage recorder, lat. 40°26'00", long. 75°07'00", at highway bridge, 1½ miles northeast of Pipersville, Bucks County, and 4½ miles above mouth. Zero of gage is 258.43 feet above mean sea level (preliminary levels of 1929).

Drainage area.— 97.4 square miles.

Records available.— July 1935 to September 1938.

Extremes.— Maximum discharge during year, 11,000 second-feet Sept. 21 (gage height, 9.11 feet), from rating curve extended above 3,600 second-feet; minimum, 0.6 second-foot Oct. 4 (gage height, 0.56 foot); minimum daily discharge, 0.8 second-foot Oct. 3.

1935-38: Maximum discharge, that of Sept. 21, 1938; minimum, 0.6 second-foot Aug. 3, 1936, Oct. 4, 1937.

Remarks.— Records good except those for periods of ice effect, Jan. 18-22, 28-31, Feb. 27 to Mar. 1 (determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas), and those for periods of recorder failure, Feb. 17-21, Sept. 3, 4 (determined from range in stage shown by recorder chart and by comparison with records for stations in adjacent drainage areas), which are fair. Regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|------|-------|------|-------|---------|-------|---------|-----|------|-------|-----------------|-------|-------------------|--|
| 1 | 3.3 | 39 | 92 | 97 | 123 | 80 | 42 | 26 | 22 | 63 | 74 | 8.4 | | |
| 2 | 2.6 | 34 | 68 | 190 | 96 | 89 | 39 | 24 | 17 | 45 | 68 | 9.1 | | |
| 3 | .8 | 26 | 53 | 179 | 81 | 53 | 38 | 26 | 17 | 39 | 44 | 9 | | |
| 4 | 3.5 | 22 | 43 | 100 | 107 | 44 | 31 | 20 | 16 | 28 | 31 | 6 | | |
| 5 | 3.4 | 18 | 42 | 77 | 93 | 44 | 28 | 16 | 12 | 23 | 25 | 10 | | |
| 6 | 3.0 | 18 | 108 | 61 | 124 | 53 | 24 | 17 | 18 | 18 | 165 | 6.7 | | |
| 7 | 3.8 | 16 | 190 | 320 | 343 | 60 | 27 | 11 | 11 | 14 | 321 | 6.1 | | |
| 8 | 3.7 | 16 | 91 | 304 | 171 | 52 | 50 | 7.1 | 43 | 12 | 141 | 4.0 | | |
| 9 | 4.8 | 16 | 77 | 112 | 122 | 44 | 440 | 14 | 24 | 11 | 56 | 6.1 | | |
| 10 | .9 | 13 | 66 | 91 | 138 | 40 | 295 | 12 | 23 | 5.2 | 35 | 3.2 | | |
| 11 | 4.1 | 12 | 51 | 62 | 95 | 36 | 116 | 15 | 15 | 7.8 | 42 | 2.0 | | |
| 12 | 3.3 | 13 | 34 | 52 | 69 | 42 | 74 | 18 | 41 | 13 | 36 | 6.7 | | |
| 13 | 4.0 | 1,460 | 24 | 67 | 72 | 53 | 59 | 15 | 488 | 35 | 28 | 3.7 | | |
| 14 | 4.1 | 643 | 20 | 50 | 87 | 317 | 50 | 13 | 169 | 32 | 19 | 5.8 | | |
| 15 | 2.1 | 217 | 19 | 49 | 70 | 1,290 | 44 | 213 | 73 | 25 | 16 | 4.8 | | |
| 16 | 3.3 | 125 | 18 | 57 | 52 | 503 | 37 | 196 | 42 | 19 | 13 | 4.4 | | |
| 17 | .9 | 87 | 32 | 42 | 43 | 645 | 33 | 74 | 29 | 16 | 24 | 4.3 | | |
| 18 | 2.8 | 66 | 513 | 35 | 37 | 481 | 113 | 39 | 21 | 52 | 487 | 3.5 | | |
| 19 | 7.8 | 56 | 310 | 31 | 55 | 244 | 524 | 29 | 16 | 43 | 194 | 5.5 | | |
| 20 | 31 | 56 | 149 | 28 | 410 | 164 | 204 | 23 | 15 | 350 | 70 | 912 | | |
| 21 | 55 | 52 | 106 | 26 | 280 | 130 | 196 | 23 | 12 | 827 | 37 | 5,430 | | |
| 22 | 39 | 42 | 84 | 32 | 220 | 102 | 151 | 23 | 9.7 | 1,200 | 25 | 2,990 | | |
| 23 | 114 | 33 | 83 | 39 | 389 | 84 | 102 | 22 | 107 | 3,010 | 18 | 369 | | |
| 24 | 109 | 27 | 73 | 282 | 481 | 73 | 76 | 19 | 405 | 1,620 | 13 | 172 | | |
| 25 | 67 | 29 | 136 | 1,980 | 216 | 60 | 57 | 23 | 113 | 399 | 17 | 104 | | |
| 26 | 43 | 26 | 151 | 564 | 127 | 52 | 49 | 26 | 51 | 209 | 8.9 | 67 | | |
| 27 | 31 | 32 | 91 | 201 | 110 | 48 | 41 | 108 | 283 | 130 | 10 | 52 | | |
| 28 | 324 | 260 | 77 | 170 | 94 | 42 | 36 | 153 | 697 | 85 | 6.7 | 40 | | |
| 29 | 229 | 361 | 88 | 120 | | 39 | 33 | 77 | 307 | 182 | 7.8 | 34 | | |
| 30 | 95 | 161 | 74 | 70 | | 35 | 24 | 45 | 126 | 308 | 6.4 | 32 | | |
| 31 | 56 | | 67 | 110 | | 38 | 31 | | 119 | 7.0 | | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 324 | | 0.8 | | 40.5 | | 0.416 | | 0.48 | |
| November..... | | | | | 1,460 | | 12 | | 133 | | 1.37 | | 1.53 | |
| December..... | | | | | 513 | | 18 | | 97.7 | | 1.00 | | 1.15 | |
| January..... | | | | | 1,980 | | 26 | | 181 | | 1.96 | | 2.14 | |
| February..... | | | | | 481 | | 37 | | 154 | | 1.58 | | 1.64 | |
| March..... | | | | | 1,290 | | 35 | | 162 | | 1.66 | | 1.91 | |
| April..... | | | | | 524 | | 24 | | 101 | | 1.04 | | 1.16 | |
| May..... | | | | | 213 | | 7.1 | | 43.8 | | .450 | | .52 | |
| June..... | | | | | 697 | | 9.7 | | 107 | | 1.10 | | 1.25 | |
| July..... | | | | | 3,010 | | 5.2 | | 288 | | 2.96 | | 3.41 | |
| August..... | | | | | 487 | | 6.4 | | 66.0 | | .678 | | .78 | |
| September..... | | | | | 5,430 | | 2.0 | | 324 | | 3.33 | | 3.72 | |
| The year..... | | | | | 5,430 | | .8 | | 141 | | 1.45 | | 19.67 | |

Neshaminy Creek near Langhorne, Pa.

Location.— Water-stage recorder, lat. 40°10'25", long. 74°57'30", at bridge on State Highway 213, half a mile below mouth of Mill Creek and 1.7 miles west of Langhorne, Bucks County. Zero of gage is 40.57 feet above mean sea level (preliminary levels of 1935).

Drainage area.— 210 square miles.

Records available.— October 1934 to September 1938.

Extremes.— Maximum discharge during year, 24,800 second-feet July 23 (gage height, 15.94 feet), from rating curve extended on basis of contracted-opening determination; minimum, 6.1 second-feet Oct. 4 (gage height 0.58 foot); minimum daily discharge, 8.0 second-feet Oct. 3.

1934-38: Maximum discharge, that of July 23, 1938; minimum, 6.0 second-feet Sept. 24, 28, 1937; minimum daily discharge, that of Oct. 3, 1937.

Maximum stage known, 17.3 feet, from floodmarks, Aug. 23, 1933 (discharge, 29,600 second-feet, from rating curve extended on basis of contracted-opening determination).

Remarks.— Records good except those for period of recorder failure, Oct. 10-21 (determined from range in stage shown by recorder graph and by comparison with records for stations in adjacent drainage areas), and those for periods of ice effect, Dec. 11-17, Jan. 11-23 (determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas), which are fair. Regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|---------|-------|-----------------|-------------------|-------|------|-----|-------|--------|------|-------|
| 1 | 11 | 82 | 207 | 124 | 296 | 244 | 169 | 92 | 55 | 270 | 304 | 79 |
| 2 | 11 | 69 | 183 | 180 | 270 | 160 | 92 | 51 | 242 | 280 | 72 | |
| 3 | 8.0 | 64 | 166 | 196 | 190 | 238 | 150 | 84 | 214 | 266 | 62 | |
| 4 | 8.3 | 59 | 150 | 150 | 228 | 196 | 143 | 82 | 54 | 173 | 231 | 51 |
| 5 | 10 | 55 | 143 | 131 | 203 | 207 | 134 | 82 | 51 | 146 | 214 | 53 |
| 6 | 19 | 48 | 190 | 121 | 183 | 234 | 121 | 76 | 56 | 131 | 314 | 48 |
| 7 | 16 | 46 | 288 | 462 | 314 | 220 | 121 | 79 | 52 | 118 | 491 | 38 |
| 8 | 21 | 46 | 173 | 434 | 274 | 193 | 137 | 66 | 169 | 112 | 308 | 52 |
| 9 | 23 | 44 | 158 | 217 | 207 | 176 | 284 | 69 | 312 | 101 | 231 | 42 |
| 10 | 16 | 40 | 131 | 166 | 217 | 169 | 276 | 74 | 137 | 101 | 190 | 47 |
| 11 | 28 | 38 | 110 | 150 | 193 | 163 | 169 | 74 | 92 | 104 | 169 | 31 |
| 12 | 18 | 36 | 100 | 140 | 166 | 176 | 140 | 74 | 465 | 322 | 160 | 40 |
| 13 | 10 | 2,760 | 90 | 145 | 166 | 173 | 131 | 69 | 530 | 287 | 137 | 41 |
| 14 | 15 | 7,470 | 85 | 130 | 176 | 352 | 128 | 66 | 262 | 268 | 124 | 31 |
| 15 | 20 | 392 | 80 | 115 | 169 | 1,660 | 124 | 185 | 146 | 491 | 118 | 36 |
| 16 | 14 | 259 | 80 | 110 | 140 | 738 | 115 | 176 | 106 | 143 | 112 | 38 |
| 17 | 12 | 210 | 95 | 100 | 131 | 990 | 106 | 104 | 87 | 115 | 304 | 39 |
| 18 | 14 | 190 | 275 | 90 | 134 | 848 | 140 | 76 | 82 | 552 | 252 | 38 |
| 19 | 25 | 163 | 266 | 82 | 217 | 465 | 358 | 72 | 74 | 628 | 193 | 173 |
| 20 | 60 | 153 | 166 | 76 | 1,930 | 369 | 208 | 69 | 66 | 1,430 | 131 | 2,740 |
| 21 | 120 | 150 | 137 | 76 | 686 | 324 | 153 | 66 | 57 | 2,770 | 106 | 8,650 |
| 22 | 62 | 134 | 131 | 85 | 460 | 280 | 143 | 74 | 64 | 5,480 | 104 | 4,530 |
| 23 | 210 | 118 | 124 | 140 | 847 | 259 | 137 | 76 | 69 | 12,300 | 101 | 536 |
| 24 | 200 | 112 | 118 | 239 | 1,340 | 245 | 118 | 72 | 101 | 4,990 | 90 | 348 |
| 25 | 87 | 104 | 150 | 3,380 | 575 | 220 | 109 | 72 | 95 | 1,180 | 76 | 266 |
| 26 | 44 | 104 | 207 | 965 | 374 | 207 | 104 | 67 | 134 | 820 | 72 | 220 |
| 27 | 33 | 101 | 153 | 321 | 332 | 207 | 101 | 95 | 2,300 | 638 | 72 | 193 |
| 28 | 759 | 558 | 140 | 266 | 304 | 186 | 101 | 121 | 1,800 | 515 | 69 | 183 |
| 29 | 369 | 564 | 153 | 259 | 173 | 98 | 98 | 98 | 736 | 423 | 64 | 163 |
| 30 | 152 | 260 | 140 | 210 | 166 | 95 | 76 | 76 | 400 | 542 | 64 | 153 |
| 31 | 104 | 124 | 293 | | 163 | | 62 | | | 382 | 62 | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October | 759 | 8.0 | 80.6 | 0.384 | 0.44 | | | | | | | |
| November | 7,470 | 36 | 481 | 2.29 | 2.56 | | | | | | | |
| December | 288 | 80 | 152 | .724 | .83 | | | | | | | |
| January | 3,380 | 76 | 308 | 1.47 | 1.70 | | | | | | | |
| February | 1,930 | 131 | 380 | 1.81 | 1.88 | | | | | | | |
| March | 1,660 | 163 | 339 | 1.61 | 1.86 | | | | | | | |
| April | 358 | 95 | 149 | .710 | .79 | | | | | | | |
| May | 185 | 62 | 85.2 | .406 | .47 | | | | | | | |
| June | 2,300 | 51 | 289 | 1.38 | 1.54 | | | | | | | |
| July | 12,300 | 101 | 1,161 | 5.53 | 6.38 | | | | | | | |
| August | 491 | 62 | 174 | .829 | .96 | | | | | | | |
| September | 8,650 | 31 | 633 | 3.01 | 3.36 | | | | | | | |
| The year | 12,300 | 8.0 | 352 | 1.68 | 22.77 | | | | | | | |

Schuylkill River at Pottstown, Pa.

Location.— Water-stage recorder, lat. 40°14'30", long. 75°39'05", at Hanover Street Bridge, at Pottstown, Montgomery County, a third of a mile below mouth of Manatawny Creek. Zero of gage is 117.81 feet above mean sea level (Pennsylvania Railroad benchmark).

Drainage area.— 1,147 square miles.

Records available.— October 1931 to September 1938 in reports of U. S. Geological Survey; August 1927 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 11 years, 1,828 second-feet.

Extremes.— Maximum discharge during year, 17,800 second-feet Oct. 24 (gage height, 10.32 feet); minimum, 353 second-feet Oct. 13, 18 (gage height, 1.08 feet); minimum daily discharge, 423 second-feet Oct. 15, 17, 18.

1927-38: Maximum discharge, 44,200 second-feet Aug. 24, 1933 (gage height, 19.2 feet), from rating curve extended above 15,000 second-feet; minimum, 87 second-feet Aug. 13, 1930 (gage height, 0.43 foot); minimum daily discharge, 175 second-feet Sept. 19, 1932.

Maximum stage known, about 21.0 feet Feb. 28, 1902 (discharge, about 50,000 second-feet).

Remarks.— Records good except those for periods of ice effect, Dec. 11-17, Jan. 17-24, which are fair and were determined from gage heights, weather records, and by comparison with records for station at Philadelphia. Regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|--------|-------|-------|-------|---------|---------|-------|-----------------|-------|-------------------|-------|-------|
| 1 | 524 | 2,500 | 1,870 | 1,480 | 2,500 | 1,640 | 1,640 | 1,580 | 1,120 | 2,710 | 2,370 | 1,030 |
| 2 | 504 | 2,240 | 1,750 | 3,220 | 1,990 | 1,930 | 1,510 | 1,520 | 1,060 | 2,500 | 2,570 | 971 |
| 3 | 485 | 2,050 | 1,640 | 3,000 | 1,870 | 1,810 | 1,390 | 1,430 | 1,060 | 2,240 | 2,370 | 785 |
| 4 | 485 | 1,870 | 1,530 | 2,640 | 2,180 | 1,640 | 1,350 | 1,390 | 1,120 | 1,930 | 2,110 | 723 |
| 5 | 473 | 1,700 | 1,460 | 2,370 | 1,990 | 1,580 | 1,240 | 1,340 | 980 | 1,700 | 1,990 | 692 |
| 6 | 485 | 1,580 | 1,530 | 2,180 | 1,750 | 1,640 | 1,190 | 1,290 | 944 | 1,530 | 2,300 | 663 |
| 7 | 485 | 1,450 | 1,580 | 2,240 | 2,320 | 1,580 | 1,240 | 1,120 | 910 | 1,460 | 1,990 | 656 |
| 8 | 454 | 1,350 | 1,340 | 2,370 | 2,920 | 1,490 | 1,340 | 971 | 1,010 | 1,350 | 1,750 | 707 |
| 9 | 448 | 1,300 | 1,250 | 1,870 | 2,440 | 1,400 | 2,000 | 962 | 1,010 | 1,270 | 1,810 | 707 |
| 10 | 429 | 1,220 | 1,060 | 1,530 | 2,440 | 1,350 | 3,000 | 998 | 834 | 1,400 | 1,640 | 648 |
| 11 | 460 | 1,150 | 920 | 1,640 | 2,240 | 1,350 | 2,440 | 980 | 777 | 1,330 | 1,530 | 619 |
| 12 | 460 | 1,090 | 800 | 1,580 | 1,990 | 1,360 | 2,180 | 926 | 1,260 | 4,850 | 1,260 | 612 |
| 13 | 435 | 3,270 | 720 | 1,580 | 1,930 | 1,360 | 2,050 | 867 | 2,060 | 3,560 | 1,070 | 619 |
| 14 | 448 | 4,540 | 700 | 1,500 | 1,990 | 2,020 | 1,930 | 867 | 1,240 | 2,370 | 989 | 648 |
| 15 | 423 | 3,450 | 700 | 1,390 | 1,870 | 4,190 | 1,810 | 1,390 | 989 | 2,240 | 944 | 802 |
| 16 | 435 | 2,850 | 800 | 1,280 | 1,580 | 4,280 | 1,640 | 1,300 | 884 | 1,930 | 910 | 1,280 |
| 17 | 423 | 2,500 | 1,000 | 1,100 | 1,480 | 4,720 | 1,530 | 1,050 | 858 | 1,700 | 1,340 | 818 |
| 18 | 423 | 2,240 | 2,620 | 1,000 | 1,450 | 4,720 | 1,760 | 935 | 912 | 1,640 | 2,590 | 761 |
| 19 | 715 | 1,990 | 3,370 | 850 | 1,580 | 4,190 | 2,370 | 892 | 966 | 1,980 | 1,990 | 958 |
| 20 | 3,590 | 1,870 | 2,570 | 700 | 3,550 | 3,770 | 1,870 | 892 | 850 | 2,750 | 1,520 | 2,180 |
| 21 | 2,850 | 1,750 | 2,300 | 800 | 3,370 | 3,370 | 2,050 | 962 | 810 | 5,740 | 1,340 | 4,690 |
| 22 | 1,990 | 1,530 | 2,110 | 1,000 | 2,780 | 2,920 | 1,930 | 1,030 | 826 | 6,850 | 1,270 | 4,540 |
| 23 | 7,660 | 1,410 | 1,930 | 1,100 | 2,780 | 2,640 | 2,110 | 926 | 1,710 | 6,440 | 1,190 | 3,500 |
| 24 | 14,500 | 1,320 | 1,750 | 1,300 | 3,070 | 2,440 | 1,930 | 1,030 | 1,040 | 6,850 | 1,100 | 2,780 |
| 25 | 7,390 | 1,280 | 1,700 | 7,070 | 2,710 | 2,300 | 1,930 | 1,810 | 810 | 5,080 | 1,020 | 2,300 |
| 26 | 4,900 | 1,220 | 1,640 | 8,360 | 2,440 | 2,050 | 1,870 | 1,520 | 1,140 | 3,940 | 901 | 2,050 |
| 27 | 3,690 | 1,260 | 1,480 | 5,460 | 2,300 | 1,930 | 1,810 | 1,580 | 3,700 | 3,220 | 842 | 1,930 |
| 28 | 4,540 | 1,750 | 1,450 | 3,940 | 2,180 | 1,810 | 1,750 | 1,520 | 7,360 | 2,850 | 793 | 1,870 |
| 29 | 4,280 | 2,300 | 1,450 | 3,040 | | 1,640 | 1,700 | 1,390 | 4,730 | 2,640 | 769 | 1,750 |
| 30 | 3,300 | 2,110 | 1,350 | 2,710 | | 1,580 | 1,580 | 1,370 | 3,450 | 3,040 | 754 | 1,580 |
| 31 | 2,920 | | 1,310 | 2,640 | | 1,640 | | 1,210 | | 2,640 | 730 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October | | | | | 14,500 | 423 | 2,278 | 1.99 | | 2.29 | | |
| November | | | | | 4,540 | 1,090 | 1,938 | 1.69 | | 1.89 | | |
| December | | | | | 3,370 | 700 | 1,537 | 1.34 | | 1.54 | | |
| January | | | | | 8,360 | 700 | 2,353 | 2.05 | | 2.36 | | |
| February | | | | | 3,550 | 1,450 | 2,275 | 1.98 | | 2.06 | | |
| March | | | | | 4,720 | 1,350 | 2,334 | 2.03 | | 2.34 | | |
| April | | | | | 3,000 | 1,190 | 1,804 | 1.57 | | 1.75 | | |
| May | | | | | 1,810 | 867 | 1,195 | 1.04 | | 1.20 | | |
| June | | | | | 7,360 | 777 | 1,547 | 1.35 | | 1.61 | | |
| July | | | | | 6,850 | 1,270 | 2,958 | 2.68 | | 2.97 | | |
| August | | | | | 2,590 | 730 | 1,476 | 1.29 | | 1.49 | | |
| September | | | | | 4,690 | 612 | 1,456 | 1.27 | | 1.42 | | |
| The year | | | | | 14,500 | 423 | 1,929 | 1.68 | | 22.82 | | |

Schuylkill River at Philadelphia, Pa.

Location.— Water-stage recorder, lat. 39°58'00", long. 75°11'20", just above Fairmount Dam, at Philadelphia, Philadelphia County. Zero of gage is at 0.00 foot elevation, city of Philadelphia datum, or 5.23 feet above mean sea level, Sandy Hook datum.

Drainage area.— 1,893 square miles.

Records available.— January 1898 to December 1912, September 1931 to September 1938 in reports of U. S. Geological Survey; January 1903 to December 1912, September 1931 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 16 years (1903-12, 1931-38), 2,594 second-feet.

Extremes.— Maximum discharge during year, 37,700 second-feet Sept. 21 (gage height, 10.66 feet), from rating curve extended above 20,000 second-feet; minimum, 9.8 second-feet Oct. 18 (gage height, 5.47 feet); minimum daily discharge, 140 second-feet Oct. 3.

1898-1912, 1931-38: Maximum discharge, about 92,000 second-feet Mar. 1, 1902 (gage height, about 14.8 feet); no flow over dam at times; minimum daily discharge, 38 second-feet Sept. 20, 1932.

Maximum stage known, about 17.0 feet Oct. 4, 1869 (discharge, about 127,000 second-feet).

Remarks.— Records good. Discharge for period of recorder failure, Mar. 1, determined by comparison with records for station at Pottstown. Discharge for period during which repairs were made to gage shelter, July 6-14, based on twice-daily gage readings. Regulation from storage reservoirs upstream. Water supply for city of Philadelphia diverted above station not included in records except in last three columns of monthly table. Record of diversion furnished by city of Philadelphia.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|--------|-------|-------|--------|-------|-------|-------|-------|--------|--------|-------|--------|
| 1 | 176 | 2,980 | 2,400 | 1,410 | 3,470 | 2,100 | 1,990 | 1,620 | 995 | 3,920 | 3,360 | 1,030 |
| 2 | 152 | 2,550 | 2,190 | 2,750 | 2,820 | 2,450 | 1,940 | 1,580 | 995 | 3,420 | 3,250 | 1,180 |
| 3 | 140 | 2,240 | 1,940 | 3,920 | 2,290 | 2,500 | 1,710 | 1,410 | 925 | 3,140 | 3,310 | 1,030 |
| 4 | 215 | 2,040 | 1,760 | 3,420 | 2,290 | 2,240 | 1,580 | 1,370 | 892 | 2,610 | 2,710 | 914 |
| 5 | 324 | 1,760 | 1,580 | 2,880 | 2,550 | 1,990 | 1,490 | 1,290 | 925 | 2,190 | 2,500 | 769 |
| 6 | 392 | 1,620 | 1,710 | 2,550 | 2,190 | 2,140 | 1,330 | 1,230 | 793 | 1,940 | 2,810 | 728 |
| 7 | 298 | 1,450 | 2,140 | 2,790 | 2,140 | 2,140 | 1,250 | 1,100 | 943 | 2,290 | 5,750 | 686 |
| 8 | 262 | 1,410 | 1,850 | 3,640 | 3,450 | 1,940 | 1,450 | 925 | 5,380 | 1,670 | 3,200 | 703 |
| 9 | 222 | 1,240 | 1,410 | 2,740 | 3,250 | 1,800 | 2,300 | 832 | 1,550 | 1,290 | 2,710 | 754 |
| 10 | 240 | 1,100 | 1,210 | 1,990 | 2,930 | 1,670 | 3,750 | 874 | 1,030 | 1,290 | 2,500 | 696 |
| 11 | 256 | 1,100 | 806 | 1,710 | 2,820 | 1,620 | 3,360 | 892 | 788 | 1,210 | 2,140 | 642 |
| 12 | 276 | 974 | 712 | 1,780 | 2,450 | 1,620 | 2,660 | 933 | 2,130 | 4,700 | 1,800 | 648 |
| 13 | 280 | 4,670 | 668 | 1,760 | 2,190 | 1,670 | 2,450 | 844 | 4,490 | 6,500 | 1,410 | 646 |
| 14 | 256 | 7,780 | 660 | 1,740 | 2,240 | 2,200 | 2,240 | 796 | 2,380 | 3,600 | 1,140 | 594 |
| 15 | 210 | 4,950 | 658 | 1,580 | 2,240 | 7,900 | 2,040 | 1,340 | 1,380 | 3,030 | 1,100 | 672 |
| 16 | 267 | 3,920 | 823 | 1,410 | 1,990 | 7,360 | 1,800 | 1,800 | 1,060 | 2,610 | 995 | 995 |
| 17 | 218 | 3,250 | 1,150 | 1,370 | 1,620 | 7,600 | 1,670 | 1,320 | 859 | 1,990 | 2,140 | 1,290 |
| 18 | 204 | 2,760 | 2,330 | 1,260 | 1,530 | 7,540 | 1,760 | 902 | 859 | 1,940 | 6,930 | 814 |
| 19 | 364 | 2,400 | 4,950 | 980 | 1,670 | 6,460 | 3,900 | 834 | 836 | 2,240 | 3,420 | 1,170 |
| 20 | 2,260 | 2,140 | 3,590 | 664 | 7,190 | 5,470 | 2,980 | 782 | 834 | 4,270 | 2,350 | 7,200 |
| 21 | 3,890 | 2,090 | 2,820 | 886 | 7,000 | 4,840 | 2,400 | 759 | 757 | 9,120 | 1,800 | 22,200 |
| 22 | 2,390 | 1,800 | 2,550 | 1,330 | 4,840 | 4,210 | 2,550 | 960 | 702 | 14,400 | 1,580 | 15,200 |
| 23 | 2,950 | 1,620 | 2,290 | 1,620 | 4,660 | 3,640 | 2,290 | 925 | 884 | 24,600 | 1,410 | 6,350 |
| 24 | 16,000 | 1,450 | 2,090 | 1,710 | 6,700 | 3,360 | 2,290 | 852 | 2,330 | 17,000 | 1,290 | 4,720 |
| 25 | 9,180 | 1,360 | 1,940 | 10,300 | 4,840 | 2,980 | 2,140 | 1,070 | 1,220 | 8,980 | 1,210 | 3,810 |
| 26 | 5,990 | 1,280 | 1,990 | 13,400 | 3,810 | 2,710 | 2,040 | 1,760 | 808 | 6,640 | 1,100 | 3,250 |
| 27 | 4,550 | 1,220 | 1,850 | 7,660 | 3,470 | 2,550 | 1,940 | 1,710 | 7,890 | 5,300 | 995 | 2,870 |
| 28 | 5,470 | 1,740 | 1,620 | 5,590 | 3,310 | 2,350 | 1,890 | 1,850 | 10,800 | 4,440 | 960 | 2,980 |
| 29 | 6,050 | 3,320 | 1,620 | 4,150 | 2,090 | 1,800 | 1,450 | 8,140 | 3,870 | 896 | 2,450 | |
| 30 | 4,320 | 3,020 | 1,620 | 3,590 | 1,940 | 1,710 | 1,330 | 5,360 | 4,610 | 818 | 2,240 | |
| 31 | 3,530 | | 1,450 | 3,420 | 1,940 | | 1,290 | | 4,210 | 798 | | |

| Month | Observed | | | Diversions (Mean) | Adjusted for diversion | | |
|----------------|----------|---------|-------|----------------------|------------------------|-----------------|-------------------|
| | Maximum | Minimum | Mean | | Mean | Per square mile | Run-off in inches |
| October..... | 16,000 | 140 | 2,301 | 252 | 2,553 | 1.35 | 1.56 |
| November..... | 7,780 | 974 | 2,374 | 242 | 2,616 | 1.38 | 1.54 |
| December..... | 4,950 | 658 | 1,819 | 252 | 2,071 | 1.09 | 1.26 |
| January..... | 13,400 | 664 | 3,097 | 243 | 3,340 | 1.76 | 2.03 |
| February..... | 7,190 | 1,530 | 3,284 | 237 | 3,521 | 1.86 | 1.94 |
| March..... | 7,900 | 1,620 | 3,323 | 232 | 3,555 | 1.88 | 2.17 |
| April..... | 3,900 | 1,250 | 2,157 | 233 | 2,390 | 1.26 | 1.41 |
| May..... | 1,850 | 759 | 1,182 | 234 | 1,416 | .748 | .86 |
| June..... | 10,800 | 702 | 2,298 | 238 | 2,536 | 1.34 | 1.50 |
| July..... | 24,600 | 1,210 | 5,130 | 248 | 5,378 | 2.84 | 3.27 |
| August..... | 6,950 | 798 | 2,206 | 266 | 2,472 | 1.31 | 1.51 |
| September..... | 22,200 | 594 | 2,974 | 247 | 3,221 | 1.70 | 1.90 |
| The year..... | 24,600 | 140 | 2,676 | 244 | 2,920 | 1.54 | 20.95 |

Little Schuylkill River at Tamaqua, Pa.

Location.— Water-stage recorder and concrete control, lat. 40°48'20", long. 75°58'20", at Panther Valley Water Co. pumping plant, 0.6 mile above Tamaqua, Schuylkill County, and 0.8 mile above mouth of Panther Creek. Zero of gage is 817.46 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.— 42.9 square miles.

Records available.— October 1919 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; June 1916 to September 1938 in reports of Pennsylvania Department of Forests and Waters. Records prior to Oct. 1, 1928, obtained at a site 0.6 mile downstream.

Average discharge.— 20 years (1916-17, 1919-38), 93.0 second-feet.

Extremes.— Maximum discharge during year, 2,220 second-feet Oct. 23 (gage height, 5.94 feet); minimum, 12.3 second-feet Oct. 9, 16 (gage height, 1.63 feet).

1916-38: Maximum discharge, 3,740 second-feet Aug. 24, 1933 (gage height, 7.50 feet); minimum, 1.8 second-feet Dec. 18, 1930 (gage height, 1.21 feet); minimum daily discharge, 3.0 second-feet Dec. 23, 1930.

Remarks.— Records good except those for period of recorder failure, Oct. 1-5 (determined from range in stage shown by recorder chart and by comparison with records for stations in adjacent drainage areas), and those for periods of ice effect, Dec. 10-17, Jan. 16-23, (determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas), which are fair. Regulation from storage in Still Creek Reservoir. Water diverted above station not included in records except in last three columns of monthly table. Record of diversion furnished by Panther Valley Water Co.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1 | 17 | 130 | 76 | 109 | 111 | 80 | 67 | 57 | 83 | 160 | 119 | 37 |
| 2 | 16 | 117 | 76 | 93 | 103 | 81 | 62 | 57 | 78 | 139 | 121 | 27 |
| 3 | 15 | 105 | 74 | 91 | 122 | 81 | 57 | 52 | 80 | 113 | 87 | 23 |
| 4 | 16 | 95 | 72 | 87 | 107 | 70 | 52 | 49 | 70 | 95 | 83 | 22 |
| 5 | 15 | 85 | 72 | 83 | 89 | 72 | 51 | 44 | 64 | 85 | 65 | 20 |
| 6 | 16.7 | 78 | 70 | 78 | 108 | 91 | 51 | 40 | 60 | 70 | 65 | 17.3 |
| 7 | 15.5 | 72 | 65 | 95 | 234 | 80 | 49 | 40 | 54 | 65 | 64 | 18.6 |
| 8 | 13.3 | 67 | 63 | 83 | 155 | 74 | 51 | 39 | 59 | 57 | 58 | 20 |
| 9 | 14.3 | 62 | 57 | 74 | 150 | 74 | 148 | 40 | 47 | 71 | 54 | 17 |
| 10 | 16.4 | 55 | 52 | 72 | 141 | 74 | 132 | 40 | 42 | 64 | 58 | 17.6 |
| 11 | 16.1 | 54 | 48 | 69 | 122 | 75 | 130 | 38 | 44 | 62 | 58 | 16.4 |
| 12 | 13.8 | 52 | 46 | 67 | 113 | 72 | 130 | 36 | 48 | 181 | 47 | 16.6 |
| 13 | 13.5 | 226 | 45 | 65 | 117 | 87 | 124 | 32 | 44 | 87 | 41 | 20 |
| 14 | 13.8 | 168 | 44 | 62 | 111 | 144 | 113 | 32 | 39 | 72 | 38 | 18.5 |
| 15 | 13.8 | 153 | 44 | 58 | 95 | 194 | 107 | 68 | 34 | 74 | 39 | 82 |
| 16 | 13.0 | 137 | 45 | 55 | 85 | 194 | 99 | 47 | 34 | 60 | 36 | 36 |
| 17 | 13.5 | 124 | 55 | 52 | 83 | 202 | 89 | 36 | 31 | 51 | 97 | 28 |
| 18 | 14.0 | 109 | 158 | 50 | 80 | 191 | 89 | 30 | 33 | 55 | 182 | 25 |
| 19 | 128 | 97 | 115 | 48 | 90 | 175 | 104 | 30 | 30 | 64 | 95 | 27 |
| 20 | 144 | 91 | 109 | 45 | 148 | 165 | 80 | 31 | 29 | 94 | 67 | 86 |
| 21 | 89 | 80 | 105 | 44 | 109 | 146 | 78 | 30 | 24 | 86 | 55 | 133 |
| 22 | 74 | 70 | 99 | 43 | 107 | 132 | 67 | 30 | 22 | 175 | 49 | 131 |
| 23 | 1,130 | 65 | 91 | 46 | 107 | 122 | 67 | 29 | 24 | 251 | 40 | 126 |
| 24 | 576 | 60 | 82 | 129 | 107 | 117 | 65 | 155 | 25 | 227 | 37 | 107 |
| 25 | 310 | 58 | 82 | 652 | 97 | 101 | 65 | 103 | 23 | 180 | 33 | 93 |
| 26 | 217 | 57 | 74 | 339 | 93 | 101 | 62 | 97 | 196 | 153 | 32 | 83 |
| 27 | 178 | 61 | 64 | 239 | 89 | 91 | 65 | 95 | 564 | 132 | 30 | 78 |
| 28 | 228 | 105 | 62 | 183 | 75 | 80 | 62 | 121 | 501 | 107 | 28 | 67 |
| 29 | 183 | 86 | 57 | 155 | 76 | 58 | 132 | 285 | 113 | 29 | 60 | |
| 30 | 158 | 74 | 52 | 139 | 72 | 58 | 109 | 191 | 104 | 26 | 57 | |
| 31 | 144 | | 52 | 134 | 72 | | 91 | | 84 | 24 | | |

| Month | Observed | | | Diversions (Mean) | Adjusted for diversion | | |
|----------------|----------|---------|------|----------------------|------------------------|-----------------|-------------------|
| | Maximum | Minimum | Mean | | Mean | Per square mile | Run-off in inches |
| October..... | 1,130 | 13.0 | 123 | 9.91 | 133 | 3.10 | 3.57 |
| November..... | 226 | 52 | 93.1 | 13.2 | 106 | 2.47 | 2.76 |
| December..... | 158 | 44 | 71.2 | 14.0 | 85.2 | 1.99 | 2.29 |
| January..... | 652 | 43 | 114 | 15.3 | 129 | 3.01 | 3.47 |
| February..... | 234 | 75 | 112 | 12.7 | 125 | 2.91 | 3.03 |
| March..... | 202 | 70 | 109 | 11.9 | 121 | 2.82 | 3.25 |
| April..... | 148 | 49 | 81.1 | 10.1 | 91.2 | 2.13 | 2.38 |
| May..... | 155 | 29 | 59.0 | 7.19 | 66.2 | 1.54 | 1.78 |
| June..... | 564 | 22 | 95.3 | 18.1 | 113 | 2.63 | 2.93 |
| July..... | 251 | 51 | 107 | 5.44 | 112 | 2.61 | 3.01 |
| August..... | 182 | 24 | 59.9 | 4.66 | 64.6 | 1.51 | 1.74 |
| September..... | 133 | 16.4 | 50.3 | 9.12 | 59.4 | 1.38 | 1.54 |
| The year..... | 1,130 | 13.0 | 89.6 | 10.9 | 100 | 2.33 | 31.75 |

Perkiomen Creek at Graters Ford, Pa.

Location.- Water-stage recorder, lat. 40°13'45", long. 75°27'10", 1,650 feet above highway bridge at Graters Ford, Montgomery County, and 2½ miles north of Collegeville. Zero of gage is 112.37 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.- 279 square miles.

Records available.- October 1931 to September 1938 in reports of U. S. Geological Survey; June 1914 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 14 years (1914-16, 1926-38), 409 second-feet.

Extremes.- Maximum discharge during year, 14,000 second-feet Sept. 21 (gage height, 10.50 feet); minimum, 12 second-feet Oct. 13 (gage height, 0.93 foot); minimum discharge, 23 second-feet Oct. 3.

1914-38: Maximum discharge, 41,200 second-feet July 9, 1935 (gage height, 18.26 feet), from rating curve extended above 12,000 second-feet; minimum, 9.5 second-feet Sept. 23, 1937 (gage height, 0.88 foot); minimum daily discharge, 11 second-feet Sept. 18, 25, 1932.

Remarks.- Records good except those for periods of ice effect, Dec. 9-17, Jan. 15-23, 28-31, Feb. 27 to Mar. 13, which are fair and were determined from gage heights, weather records, one discharge measurement, and by comparison with records in adjacent drainage areas. Some regulation from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|------|-------|------|-------|---------|-------|---------|-----|-------|-------|-----------------|-------|-------------------|--|
| 1 | 34 | 114 | 234 | 234 | 346 | 170 | 192 | 114 | 74 | 183 | 233 | 97 | | |
| 2 | 28 | 108 | 192 | 470 | 243 | 180 | 164 | 114 | 58 | 187 | 257 | 87 | | |
| 3 | 23 | 98 | 164 | 372 | 208 | 160 | 144 | 103 | 58 | 156 | 179 | 68 | | |
| 4 | 36 | 88 | 144 | 244 | 296 | 130 | 137 | 97 | 56 | 108 | 147 | 58 | | |
| 5 | 29 | 82 | 137 | 200 | 239 | 140 | 122 | 94 | 52 | 93 | 145 | 50 | | |
| 6 | 39 | 75 | 229 | 175 | 212 | 220 | 119 | 89 | 50 | 84 | 1,010 | 52 | | |
| 7 | 37 | 70 | 404 | 557 | 463 | 190 | 128 | 81 | 61 | 70 | 882 | 49 | | |
| 8 | 36 | 70 | 182 | 514 | 353 | 170 | 167 | 73 | 140 | 65 | 428 | 46 | | |
| 9 | 30 | 72 | 160 | 248 | 272 | 150 | 736 | 73 | 109 | 63 | 257 | 44 | | |
| 10 | 31 | 64 | 140 | 206 | 303 | 130 | 502 | 86 | 62 | 58 | 187 | 41 | | |
| 11 | 43 | 59 | 120 | 184 | 239 | 120 | 248 | 92 | 52 | 258 | 204 | 45 | | |
| 12 | 37 | 64 | 110 | 165 | 196 | 130 | 200 | 83 | 329 | 1,530 | 159 | 43 | | |
| 13 | 29 | 1,280 | 100 | 171 | 208 | 170 | 179 | 73 | 913 | 289 | 117 | 50 | | |
| 14 | 35 | 981 | 95 | 165 | 248 | 922 | 161 | 74 | 240 | 244 | 99 | 37 | | |
| 15 | 36 | 364 | 90 | 150 | 216 | 2,960 | 154 | 329 | 126 | 288 | 93 | 49 | | |
| 16 | 30 | 248 | 85 | 150 | 151 | 1,260 | 140 | 246 | 92 | 176 | 85 | 48 | | |
| 17 | 29 | 200 | 130 | 130 | 140 | 1,520 | 125 | 129 | 72 | 117 | 302 | 42 | | |
| 18 | 42 | 175 | 874 | 120 | 151 | 1,180 | 420 | 88 | 65 | 192 | 1,110 | 41 | | |
| 19 | 63 | 154 | 539 | 110 | 224 | 680 | 1,070 | 84 | 63 | 477 | 313 | 195 | | |
| 20 | 407 | 154 | 314 | 100 | 3,250 | 511 | 404 | 82 | 54 | 688 | 166 | 2,920 | | |
| 21 | 242 | 147 | 248 | 95 | 1,120 | 425 | 437 | 89 | 54 | 3,430 | 122 | 8,740 | | |
| 22 | 111 | 151 | 216 | 100 | 742 | 342 | 314 | 95 | 56 | 4,110 | 109 | 2,720 | | |
| 23 | 365 | 108 | 216 | 140 | 1,140 | 298 | 262 | 88 | 366 | 5,840 | 99 | 739 | | |
| 24 | 352 | 99 | 192 | 421 | 1,210 | 267 | 196 | 86 | 353 | 2,630 | 86 | 410 | | |
| 25 | 158 | 94 | 258 | 4,470 | 620 | 221 | 179 | 106 | 131 | 986 | 74 | 293 | | |
| 26 | 113 | 98 | 318 | 1,280 | 404 | 208 | 164 | 98 | 154 | 592 | 68 | 226 | | |
| 27 | 98 | 111 | 216 | 493 | 330 | 204 | 147 | 212 | 1,540 | 419 | 66 | 200 | | |
| 28 | 844 | 388 | 196 | 400 | 250 | 175 | 147 | 216 | 1,570 | 308 | 63 | 179 | | |
| 29 | 397 | 693 | 257 | 320 | 164 | 142 | 129 | 549 | 462 | 59 | 147 | 147 | | |
| 30 | 208 | 332 | 204 | 250 | 164 | 120 | 92 | 273 | 706 | 61 | 140 | 140 | | |
| 31 | 145 | | 183 | 300 | | 179 | | 77 | | 298 | 56 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 844 | | 23 | | 132 | | 0.473 | | 0.55 | |
| November..... | | | | | 1,280 | | 59 | | 224 | | .803 | | .90 | |
| December..... | | | | | 874 | | 85 | | 224 | | .803 | | .93 | |
| January..... | | | | | 4,470 | | 95 | | 417 | | 1.49 | | 1.72 | |
| February..... | | | | | 3,250 | | 140 | | 492 | | 1.76 | | 1.83 | |
| March..... | | | | | 2,960 | | 120 | | 443 | | 1.59 | | 1.83 | |
| April..... | | | | | 1,070 | | 119 | | 254 | | .910 | | 1.02 | |
| May..... | | | | | 329 | | 73 | | 113 | | .405 | | .47 | |
| June..... | | | | | 1,570 | | 50 | | 259 | | .928 | | 1.04 | |
| July..... | | | | | 5,840 | | 58 | | 810 | | 2.90 | | 3.34 | |
| August..... | | | | | 1,110 | | 56 | | 233 | | .835 | | .96 | |
| September..... | | | | | 8,740 | | 37 | | 595 | | 2.13 | | 2.38 | |
| The year..... | | | | | 8,740 | | 23 | | 349 | | 1.25 | | 16.97 | |

Ridley Creek at Moylan, Pa.

Location.- Water-stage recorder, lat. 39°54'05", long. 75°23'35", at Fox Bank Bridge, at Moylan, Delaware County, 1 mile south of Media. Zero of gage is 97.36 feet above mean sea level (Pennsylvania Railroad benchmark).

Drainage area.- 31.9 square miles.

Records available.- October 1931 to September 1938 in reports of U. S. Geological Survey; August 1931 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, 4,500 second-feet July 23 (gage height, 8.16 feet), from rating curve extended above 300 second-feet; minimum, 2.8 second-feet Oct. 17; minimum daily discharge, 6.6 second-feet Oct. 8.

1931-38: Maximum discharge, that of July 23, 1938; minimum, 1.6 second-feet Oct. 2, 1932; minimum daily discharge, 3.8 second-feet Sept. 14, 1932.

Remarks.- Records good except those for high stages, those for period of ice effect, Dec. 12-14 (determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas), and those for period of missing gage record, Sept. 15-22 (determined by comparison with records for stations in adjacent drainage areas), which are fair. Flow regulated by storage in reservoir of Media Water Co., which diverts about 1.08 second-feet to supply borough of Media.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1 | 9.8 | 20 | 26 | 24 | 35 | 29 | 32 | 24 | 19 | 45 | 52 | 47 |
| 2 | 9.6 | 19 | 24 | 28 | 25 | 36 | 30 | 23 | 18 | 44 | 59 | 33 |
| 3 | 9.1 | 19 | 22 | 24 | 27 | 34 | 29 | 24 | 20 | 40 | 45 | 29 |
| 4 | 9.6 | 19 | 23 | 22 | 29 | 32 | 29 | 22 | 19 | 35 | 60 | 29 |
| 5 | 16 | 17 | 23 | 21 | 27 | 35 | 27 | 22 | 18 | 32 | 47 | 28 |
| 6 | 21 | 16 | 37 | 19 | 27 | 40 | 27 | 22 | 19 | 31 | 46 | 26 |
| 7 | 14 | 16 | 33 | 48 | 34 | 33 | 27 | 20 | 24 | 50 | 253 | 26 |
| 8 | 6.6 | 17 | 23 | 33 | 27 | 30 | 36 | 18 | 247 | 28 | 65 | 29 |
| 9 | 13 | 16 | 24 | 24 | 26 | 29 | 63 | 21 | 35 | 27 | 52 | 25 |
| 10 | 12 | 16 | 20 | 21 | 27 | 30 | 40 | 25 | 24 | 27 | 45 | 25 |
| 11 | 14 | 29 | 19 | 23 | 24 | 31 | 30 | 23 | 31 | 26 | 48 | 25 |
| 12 | 12 | 20 | 18 | 24 | 24 | 36 | 29 | 24 | 522 | 54 | 41 | 26 |
| 13 | 12 | 309 | 17 | 24 | 26 | 32 | 29 | 20 | 122 | 30 | 37 | 26 |
| 14 | 12 | 59 | 17 | 24 | 26 | 54 | 27 | 24 | 50 | 30 | 36 | 26 |
| 15 | 11 | 34 | 18 | 22 | 24 | 89 | 27 | 47 | 40 | 58 | 35 | 27 |
| 16 | 10 | 30 | 22 | 21 | 22 | 55 | 26 | 28 | 32 | 28 | 34 | 25 |
| 17 | 10 | 27 | 24 | 22 | 21 | 69 | 26 | 23 | 31 | 24 | 234 | 24 |
| 18 | 9.4 | 27 | 37 | 22 | 23 | 56 | 41 | 21 | 29 | 24 | 170 | 27 |
| 19 | 25 | 24 | 31 | 18 | 48 | 43 | 76 | 21 | 27 | 33 | 48 | 50 |
| 20 | 63 | 24 | 24 | 20 | 115 | 43 | 35 | 22 | 25 | 34 | 41 | 400 |
| 21 | 27 | 24 | 23 | 21 | 54 | 37 | 29 | 22 | 25 | 162 | 37 | 500 |
| 22 | 18 | 22 | 21 | 30 | 41 | 34 | 32 | 26 | 25 | 277 | 36 | 110 |
| 23 | 64 | 22 | 21 | 27 | 72 | 32 | 30 | 22 | 37 | 977 | 35 | 58 |
| 24 | 33 | 21 | 22 | 45 | 92 | 32 | 27 | 24 | 39 | 227 | 33 | 49 |
| 25 | 20 | 21 | 24 | 242 | 54 | 29 | 27 | 27 | 24 | 137 | 32 | 43 |
| 26 | 16 | 21 | 24 | 65 | 42 | 31 | 26 | 25 | 49 | 83 | 32 | 40 |
| 27 | 26 | 24 | 20 | 33 | 40 | 31 | 26 | 47 | 791 | 59 | 31 | 46 |
| 28 | 152 | 55 | 23 | 29 | 58 | 29 | 26 | 31 | 123 | 60 | 31 | 57 |
| 29 | 44 | 38 | 24 | 27 | | 29 | 24 | 23 | 72 | 58 | 31 | 42 |
| 30 | 26 | 27 | 21 | 27 | | 32 | 24 | 20 | 51 | 56 | 30 | 43 |
| 31 | 22 | | 22 | 36 | | 34 | | 19 | | 49 | 30 | |

| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|---------|---------|------|-----------------|-------------------|
| October..... | 152 | 6.6 | 24.1 | 0.765 | 0.87 |
| November..... | 309 | 16 | 34.4 | 1.08 | 1.20 |
| December..... | 37 | 17 | 23.5 | .737 | .85 |
| January..... | 242 | 18 | 34.4 | 1.08 | 1.24 |
| February..... | 115 | 21 | 38.2 | 1.20 | 1.25 |
| March..... | 89 | 29 | 38.3 | 1.20 | 1.38 |
| April..... | 76 | 24 | 31.9 | 1.00 | 1.12 |
| May..... | 47 | 18 | 24.5 | .768 | .89 |
| June..... | 791 | 18 | 86.3 | 2.71 | 3.02 |
| July..... | 977 | 24 | 91.1 | 2.86 | 3.50 |
| August..... | 253 | 30 | 58.3 | 1.83 | 2.11 |
| September..... | 500 | 24 | 64.7 | 2.03 | 2.26 |
| The year..... | 977 | 6.6 | 45.8 | 1.44 | 19.49 |

DELAWARE RIVER BASIN

Chester Creek near Chester, Pa.

Location.- Water-stage recorder, lat. $39^{\circ}52'10''$, long. $75^{\circ}24'30''$, at Dutton Mill Bridge 3 miles northwest of Chester, Delaware County. Zero of gage is 23.54 feet above mean sea level (Pennsylvania Railroad benchmark).

Drainage area.- 61.1 square miles.

Records available.- October 1931 to September 1938 in reports of U. S. Geological Survey; August 1931 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, 3,680 second-feet July 23 (gauge height, 10.57 feet), from rating curve extended above 800 second-feet; minimum, 12 second-feet Oct. 16 (gauge height, 0.52 foot); minimum daily discharge, 19 second-feet Oct. 1-3.

1931-38: Maximum discharge, 4,270 second-foot Aug. 23, 1933 (gage height, 11.48 feet), from rating curve extended above 800 second-foot; minimum, 0.3 second-foot Aug. 7, 1934 (gage height, 0.28 foot); minimum daily discharge, 6.8 second-foot Sept. 11, 14, 1932.

Remarks.— Records good except those for high stages, those for period of ice effect, Dec. 12-18 (determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas), and those for period of recorder failure, Aug. 11-23 (determined from range in stage shown by recorder graph and by comparison with records for stations in adjacent drainage areas), which are fair. Regulation from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | |
|-----------|------|------|------|------|---------|------|---------|-----|-------|-------|-----------------|-------|-------------------|
| 1 | 19 | 35 | 52 | 44 | 66 | 53 | 60 | 41 | 32 | 60 | 78 | 83 | |
| 2 | 19 | 35 | 42 | 59 | 50 | 59 | 55 | 39 | 32 | 57 | 111 | 57 | |
| 3 | 19 | 34 | 42 | 45 | 52 | 59 | 55 | 38 | 31 | 50 | 66 | 51 | |
| 4 | 20 | 32 | 41 | 42 | 57 | 54 | 50 | 37 | 32 | 44 | 130 | 52 | |
| 5 | 22 | 31 | 42 | 40 | 52 | 68 | 49 | 37 | 33 | 41 | 68 | 46 | |
| 6 | 43 | 31 | 81 | 39 | 53 | 76 | 47 | 36 | 30 | 40 | 70 | 46 | |
| 7 | 28 | 31 | 71 | 107 | 67 | 61 | 49 | 35 | 34 | 37 | 873 | 46 | |
| 8 | 21 | 29 | 44 | 68 | 54 | 56 | 65 | 33 | 318 | 36 | 232 | 48 | |
| 9 | 21 | 30 | 45 | 49 | 51 | 54 | 124 | 34 | 58 | 34 | 113 | 44 | |
| 10 | 24 | 29 | 39 | 42 | 52 | 55 | 76 | 40 | 39 | 34 | 84 | 42 | |
| 11 | 27 | 34 | 38 | 44 | 50 | 57 | 55 | 38 | 36 | 34 | 96 | 43 | |
| 12 | 26 | 28 | 36 | 44 | 49 | 65 | 53 | 39 | 255 | 88 | 82 | 46 | |
| 13 | 26 | 672 | 34 | 49 | 52 | 59 | 51 | 35 | 175 | 46 | 72 | 47 | |
| 14 | 23 | 134 | 33 | 48 | 50 | 99 | 50 | 39 | 53 | 37 | 66 | 44 | |
| 15 | 25 | 74 | 32 | 44 | 47 | 157 | 48 | 85 | 41 | 94 | 62 | 46 | |
| 16 | 22 | 54 | 33 | 40 | 42 | 103 | 47 | 48 | 37 | 43 | 60 | 44 | |
| 17 | 22 | 56 | 44 | 41 | 40 | 131 | 44 | 39 | 36 | 36 | 900 | 41 | |
| 18 | 26 | 48 | 73 | 40 | 44 | 108 | 78 | 36 | 35 | 37 | 500 | 46 | |
| 19 | 41 | 45 | 62 | 36 | 104 | 79 | 127 | 36 | 32 | 47 | 100 | 85 | |
| 20 | 140 | 46 | 42 | 35 | 238 | 72 | 63 | 37 | 29 | 46 | 79 | 673 | |
| 21 | 62 | 44 | 42 | 37 | 107 | 68 | 53 | 39 | 31 | 320 | 66 | 845 | |
| 22 | 39 | 41 | 41 | 54 | 83 | 63 | 55 | 45 | 30 | 572 | 60 | 230 | |
| 23 | 152 | 36 | 40 | 48 | 183 | 60 | 51 | 37 | 57 | 1,240 | 57 | 109 | |
| 24 | 73 | 38 | 40 | 95 | 165 | 59 | 45 | 45 | 49 | 410 | 54 | 86 | |
| 25 | 43 | 39 | 54 | 440 | 95 | 55 | 45 | 54 | 34 | 623 | 51 | 73 | |
| 26 | 37 | 40 | 47 | 123 | 74 | 57 | 44 | 45 | 80 | 149 | 51 | 69 | |
| 27 | 48 | 46 | 41 | 66 | 72 | 58 | 43 | 94 | 1,570 | 106 | 51 | 75 | |
| 28 | 395 | 125 | 45 | 58 | 69 | 53 | 43 | 56 | 259 | 87 | 50 | 79 | |
| 29 | 90 | 83 | 45 | 59 | 52 | 42 | 42 | 42 | 106 | 81 | 48 | 83 | |
| 30 | 51 | 51 | 41 | 49 | 59 | 59 | 41 | 36 | 68 | 81 | 48 | 104 | |
| 31 | 42 | | 40 | 74 | | 65 | | 32 | | 66 | 49 | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches |
| October | | | | | 395 | | 19 | | 53.1 | | 0.869 | | 1.00 |
| November | | | | | 672 | | 28 | | 68.4 | | 1.12 | | 1.25 |
| December | | | | | 81 | | 32 | | 45.2 | | .740 | | 1.85 |
| January | | | | | 440 | | 35 | | 66.4 | | 1.09 | | 1.26 |
| February | | | | | 238 | | 40 | | 75.6 | | 1.24 | | 1.29 |
| March | | | | | 157 | | 52 | | 70.1 | | 1.15 | | 1.33 |
| April | | | | | 127 | | 41 | | 56.9 | | .931 | | 1.04 |
| May | | | | | 94 | | 52 | | 42.8 | | .700 | | .81 |
| June | | | | | 1,570 | | 29 | | 122 | | 2.00 | | 2.23 |
| July | | | | | 1,240 | | 34 | | 151 | | 2.47 | | 2.85 |
| August | | | | | 900 | | 48 | | 143 | | 2.34 | | 2.70 |
| September | | | | | 845 | | 41 | | 113 | | 1.85 | | 2.06 |
| The year | | | | | 1,570 | | 19 | | 83.9 | | 1.37 | | 18.67 |

Brandywine Creek at Chadds Ford, Pa.

Location.— Water stage recorder, lat. 39°52'10", long. 75°35'35", at Pennsylvania Railroad Bridge at Chadds Ford, Delaware County. Zero of gage is 150.19 feet above mean sea level (Pennsylvania Railroad benchmark).

Drainage area.- 287 square miles.

Records available.--October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; August 1911 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 27 years, 378 second-feet.

Extremes.—Maximum discharge during year, 12,300 second-feet June 27 (gage height, 11.37 feet), from rating curve extended above 7,000 second-feet; minimum, 81 second-feet Oct. 14, 18 (gage height, 0.63 foot); minimum daily discharge, 120 second-feet Oct. 3.

1911-38: Maximum discharge, 30,500 second-feet Mar. 5, 1920 (gage height, 15.0 feet, from floodmark), from rating curve extended above 7,000 second-feet; minimum, 18 second-feet Jan. 22, 1931 (gage height, 0.34 foot); minimum daily discharge, 50 second-feet Sept. 11, 13, 23, 1932.

Remarks. - Records good except those for period of ice effect, Dec. 11-16 (determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas), and those for period of recorder failure, Jan. 4-22 (determined from range in stage shown by recorder chart and by comparison with records for stations in adjacent drainage areas), which are fair. Regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | |
|----------------|-------|-------|------|-------|---------|-------|---------|-----|-------|-------|-----------------|-------|-------------------|
| 1 | 127 | 255 | 310 | 281 | 356 | 362 | 368 | 284 | 218 | 447 | 506 | 427 | |
| 2 | 122 | 239 | 293 | 382 | 284 | 375 | 353 | 265 | 218 | 433 | 580 | 281 | |
| 3 | 120 | 229 | 281 | 313 | 290 | 372 | 343 | 257 | 216 | 385 | 430 | 251 | |
| 4 | 124 | 218 | 270 | 270 | 319 | 350 | 331 | 262 | 216 | 340 | 402 | 244 | |
| 5 | 137 | 210 | 270 | 240 | 298 | 382 | 319 | 259 | 216 | 319 | 385 | 233 | |
| 6 | 174 | 205 | 350 | 220 | 290 | 416 | 310 | 249 | 211 | 298 | 534 | 223 | |
| 7 | 144 | 199 | 350 | 380 | 356 | 375 | 316 | 236 | 301 | 284 | 1,440 | 221 | |
| 8 | 127 | 200 | 281 | 310 | 328 | 346 | 359 | 228 | 2,530 | 276 | 1,010 | 236 | |
| 9 | 122 | 201 | 270 | 270 | 293 | 331 | 535 | 238 | 467 | 268 | 637 | 218 | |
| 10 | 135 | 187 | 241 | 240 | 290 | 337 | 447 | 244 | 298 | 276 | 455 | 211 | |
| 11 | 135 | 185 | 230 | 250 | 276 | 340 | 353 | 241 | 262 | 268 | 515 | 214 | |
| 12 | 134 | 190 | 220 | 260 | 270 | 369 | 328 | 236 | 2,110 | 1,860 | 395 | 216 | |
| 13 | 130 | 2,300 | 220 | 290 | 281 | 356 | 316 | 228 | 1,300 | 542 | 350 | 218 | |
| 14 | 131 | 968 | 220 | 280 | 298 | 595 | 310 | 238 | 459 | 343 | 334 | 211 | |
| 15 | 127 | 177 | 230 | 250 | 270 | 1,550 | 307 | 444 | 337 | 560 | 325 | 218 | |
| 16 | 124 | 382 | 250 | 230 | 249 | 675 | 293 | 328 | 287 | 331 | 313 | 216 | |
| 17 | 124 | 350 | 273 | 240 | 241 | 810 | 290 | 259 | 270 | 281 | 320 | 202 | |
| 18 | 126 | 331 | 388 | 230 | 249 | 655 | 369 | 238 | 259 | 321 | 424 | 218 | |
| 19 | 251 | 310 | 359 | 220 | 329 | 515 | 675 | 238 | 241 | 316 | 322 | 602 | |
| 20 | 703 | 313 | 298 | 210 | 1,130 | 477 | 385 | 244 | 233 | 322 | 296 | 2,040 | |
| 21 | 303 | 298 | 276 | 230 | 650 | 455 | 328 | 262 | 226 | 987 | 284 | 2,650 | |
| 22 | 207 | 281 | 265 | 370 | 451 | 419 | 325 | 290 | 226 | 1,730 | 278 | 1,310 | |
| 23 | 1,760 | 270 | 262 | 340 | 562 | 408 | 313 | 262 | 798 | 4,020 | 276 | 582 | |
| 24 | 727 | 265 | 257 | 375 | 867 | 392 | 293 | 259 | 663 | 1,970 | 268 | 430 | |
| 25 | 330 | 262 | 296 | 1,650 | 535 | 369 | 287 | 276 | 339 | 1,160 | 254 | 362 | |
| 26 | 260 | 268 | 290 | 883 | 430 | 375 | 281 | 281 | 411 | 744 | 251 | 331 | |
| 27 | 318 | 296 | 262 | 392 | 412 | 375 | 276 | 496 | 6,620 | 635 | 251 | 319 | |
| 28 | 1,390 | 515 | 273 | 328 | 395 | 356 | 276 | 331 | 1,650 | 592 | 246 | 316 | |
| 29 | 581 | 535 | 298 | 319 | | 346 | 270 | 268 | 775 | 692 | 241 | 301 | |
| 30 | 358 | 356 | 276 | 296 | | 372 | 265 | 241 | 535 | 768 | 241 | 319 | |
| 31 | 286 | | 270 | 346 | | 398 | | 223 | | 496 | 244 | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches |
| October..... | | | | | 1,760 | | 120 | | 317 | | 1.10 | | 1.27 |
| November..... | | | | | 2,300 | | 185 | | 376 | | 1.31 | | 1.46 |
| December..... | | | | | 388 | | 220 | | 278 | | .969 | | 1.12 |
| January..... | | | | | 1,650 | | 210 | | 351 | | 1.22 | | 1.41 |
| February..... | | | | | 1,130 | | 241 | | 393 | | 1.37 | | 1.43 |
| March..... | | | | | 1,550 | | 331 | | 460 | | 1.60 | | 1.84 |
| April..... | | | | | 675 | | 265 | | 341 | | 1.19 | | 1.33 |
| May..... | | | | | 496 | | 223 | | 271 | | .944 | | 1.09 |
| June..... | | | | | 6,620 | | 211 | | 763 | | 2.66 | | 2.97 |
| July..... | | | | | 4,020 | | 268 | | 718 | | 2.50 | | 2.88 |
| August..... | | | | | 1,440 | | 241 | | 413 | | 1.44 | | 1.66 |
| September..... | | | | | 2,650 | | 202 | | 461 | | 1.61 | | 1.80 |
| The year..... | | | | | 6,620 | | 120 | | 428 | | 1.49 | | 20.26 |

SUSQUEHANNA RIVER BASIN

North Branch of Susquehanna River at Towanda, Pa.

Location.- Wire-weight gage, lat. 41°45'55", long. 76°26'25", at Bridge Street Bridge, at Towanda, Bradford County, 1 3/4 miles above mouth of Towanda Creek. Zero of gage is 693.85 feet above mean sea level (preliminary levels of 1923).

Drainage area.- 7,797 square miles.

Records available.- October 1918 to October 1920, October 1931 to September 1938 in reports of U. S. Geological Survey; December 1892 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 20 years (1918-38), 10,080 second-feet.

Extremes.- Maximum discharge observed during year, 62,100 second-feet Jan. 26 (gage height, 11.74 feet); minimum, 1,100 second-feet Sept. 7 (gage height, 0.41 foot). 1892-1938: Maximum discharge, 188,000 second-feet Mar. 19, 1936 (gage height, 25.03 feet); minimum, 538 second-feet Dec. 3, 1930 (gage height, -0.15 foot); minimum daily discharge, 560 second-feet Aug. 3, 1936.

Maximum flood known prior to 1892, 25.0 feet Mar. 17, 1865 (discharge, about 188,000 second-feet).

Remarks.- Records good except those for periods of ice effect, Dec. 12-17, Jan. 15-24, which are fair and were determined from gage heights, weather records, and by comparison with records for stations upstream and downstream. Gage read twice daily.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|--------|---------|--------|--------|--------|-----------------|--------|-------------------|-------|--------|--------|
| 1 | 1,760 | 16,900 | 10,400 | 6,300 | 13,900 | 4,820 | 12,400 | 6,300 | 3,970 | 3,700 | 3,190 | 1,550 |
| 2 | 1,760 | 12,900 | 8,700 | 7,100 | 12,400 | 6,000 | 11,900 | 6,000 | 3,700 | 3,070 | 2,720 | 1,390 |
| 3 | 1,680 | 10,900 | 7,500 | 6,700 | 9,900 | 9,100 | 10,900 | 5,400 | 3,440 | 2,720 | 2,500 | 1,390 |
| 4 | 1,680 | 9,900 | 6,300 | 5,700 | 11,900 | 10,400 | 9,500 | 5,110 | 3,700 | 2,500 | 2,500 | 1,310 |
| 5 | 1,680 | 8,700 | 6,000 | 5,400 | 16,400 | 8,700 | 8,700 | 5,110 | 3,700 | 2,290 | 2,290 | 1,180 |
| 6 | 1,680 | 7,900 | 5,700 | 5,400 | 14,400 | 30,000 | 8,300 | 4,320 | 3,190 | 2,000 | 1,900 | 1,140 |
| 7 | 1,590 | 6,700 | 6,000 | 5,400 | 23,000 | 39,000 | 7,900 | 4,820 | 2,950 | 1,720 | 1,640 | 1,180 |
| 8 | 1,430 | 6,700 | 5,700 | 7,100 | 35,000 | 22,400 | 7,900 | 4,530 | 2,840 | 1,640 | 1,470 | 1,240 |
| 9 | 1,510 | 6,300 | 5,110 | 6,300 | 29,000 | 14,900 | 9,100 | 4,250 | 2,720 | 1,470 | 1,550 | 1,310 |
| 10 | 1,510 | 6,000 | 4,530 | 5,700 | 28,400 | 12,400 | 14,400 | 4,250 | 2,720 | 1,390 | 1,550 | 1,390 |
| 11 | 1,510 | 6,000 | 4,250 | 5,110 | 26,600 | 9,500 | 16,900 | 4,530 | 2,400 | 1,310 | 4,240 | 1,390 |
| 12 | 1,510 | 5,700 | 4,000 | 5,110 | 18,400 | 8,700 | 28,400 | 4,250 | 2,290 | 1,470 | 15,600 | 1,310 |
| 13 | 1,680 | 13,000 | 3,800 | 5,110 | 19,700 | 9,500 | 34,400 | 3,970 | 2,400 | 1,310 | 9,100 | 1,390 |
| 14 | 1,760 | 49,000 | 3,600 | 4,530 | 39,900 | 23,000 | 29,000 | 3,970 | 3,700 | 1,310 | 5,700 | 2,000 |
| 15 | 1,760 | 34,700 | 3,500 | 4,300 | 34,300 | 23,000 | 23,000 | 4,250 | 4,250 | 1,390 | 4,250 | 7,640 |
| 16 | 1,760 | 23,600 | 3,700 | 3,800 | 23,000 | 18,900 | 17,900 | 8,300 | 3,440 | 1,470 | 3,190 | 10,200 |
| 17 | 1,680 | 17,900 | 5,000 | 3,700 | 16,400 | 22,400 | 15,900 | 12,900 | 2,950 | 1,310 | 2,840 | 6,700 |
| 18 | 1,680 | 15,400 | 24,100 | 3,300 | 14,400 | 34,400 | 13,400 | 9,900 | 2,500 | 1,310 | 11,600 | 5,700 |
| 19 | 1,590 | 13,400 | 50,400 | 3,100 | 15,900 | 32,600 | 13,900 | 7,900 | 2,290 | 1,470 | 5,110 | 5,400 |
| 20 | 1,590 | 11,400 | 35,000 | 2,800 | 18,900 | 29,600 | 14,900 | 6,300 | 2,000 | 1,550 | 5,400 | 5,110 |
| 21 | 1,850 | 10,400 | 24,200 | 2,800 | 14,900 | 27,800 | 14,900 | 6,000 | 1,900 | 1,640 | 3,970 | 12,400 |
| 22 | 2,440 | 9,500 | 18,400 | 3,100 | 12,400 | 26,000 | 13,400 | 6,700 | 1,720 | 1,810 | 3,070 | 46,500 |
| 23 | 18,900 | 8,700 | 15,900 | 3,600 | 10,900 | 23,600 | 16,900 | 6,700 | 1,640 | 1,720 | 2,720 | 61,300 |
| 24 | 56,100 | 7,900 | 13,900 | 5,000 | 10,400 | 27,200 | 14,900 | 6,300 | 1,550 | 2,400 | 3,190 | 58,100 |
| 25 | 39,200 | 7,500 | 10,900 | 11,700 | 9,900 | 29,000 | 12,400 | 7,500 | 1,550 | 2,560 | 2,950 | 38,500 |
| 26 | 23,600 | 7,100 | 9,900 | 54,300 | 8,700 | 23,600 | 10,400 | 7,900 | 1,640 | 2,190 | 2,500 | 23,600 |
| 27 | 14,400 | 7,100 | 9,100 | 36,400 | 7,900 | 20,000 | 9,500 | 6,700 | 3,120 | 2,000 | 2,290 | 16,400 |
| 28 | 14,500 | 8,300 | 7,900 | 21,200 | 7,100 | 17,400 | 8,300 | 5,700 | 9,780 | 2,950 | 2,090 | 12,900 |
| 29 | 43,200 | 11,400 | 7,100 | 13,400 | | 15,400 | 7,900 | 5,400 | 6,000 | 3,190 | 1,900 | 10,900 |
| 30 | 40,000 | 12,900 | 6,700 | 11,400 | | 13,900 | 6,700 | 5,110 | 5,110 | 2,610 | 1,720 | 9,100 |
| 31 | 24,200 | | 6,000 | 11,900 | | 12,900 | | 4,250 | | 2,720 | 1,640 | |
| Month | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | | | |
| October | 56,100 | 1,430 | 10,040 | 1.29 | 1.49 | | | | | | | |
| November | 49,000 | 5,700 | 12,460 | 1.60 | 1.78 | | | | | | | |
| December | 50,400 | 3,500 | 10,750 | 1.38 | 1.59 | | | | | | | |
| January | 54,300 | 2,800 | 8,928 | 1.15 | 1.33 | | | | | | | |
| February | 39,900 | 7,100 | 18,000 | 2.31 | 2.40 | | | | | | | |
| March | 39,000 | 4,820 | 19,550 | 2.51 | 2.89 | | | | | | | |
| April | 34,400 | 6,700 | 14,130 | 1.81 | 2.02 | | | | | | | |
| May | 12,900 | 3,970 | 5,972 | .766 | .88 | | | | | | | |
| June | 9,780 | 1,550 | 3,172 | .407 | .45 | | | | | | | |
| July | 3,700 | 1,310 | 2,006 | .257 | .30 | | | | | | | |
| August | 15,600 | 1,470 | 3,754 | .481 | .55 | | | | | | | |
| September | 61,300 | 1,140 | 11,650 | 1.49 | 1.66 | | | | | | | |
| The year | 61,300 | 1,140 | 9,966 | 1.28 | 17.34 | | | | | | | |

North Branch of Susquehanna River at Wilkes-Barre, Pa.

Location.- Water-stage recorder, lat. 41°15'00", long. 75°53'10", at Market Street Bridge, at Wilkes-Barre, Luzerne County, 1.6 miles above mouth of Toby Creek. Zero of gage is 511.94 feet above mean sea level (preliminary levels of 1934). Drainage area.- 9,960 square miles.

Records available.- March 1899 to December 1913, October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; November 1890 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 39 years (1899-1938), 13,500 second-feet.

Extremes.- Maximum discharge during year, 64,900 second-feet Sept. 24; maximum gage height, 15.30 feet Oct. 25; minimum discharge, 1,570 second-feet Sept. 9 (gage height, 1.59 feet).

1899-1938: Maximum discharge, 232,000 second-feet Mar. 20, 1936 (gage height, 33.07 feet); minimum, 820 second-feet Sept. 12, 16, 17, 20, 1913.

Maximum stage known, 33.1 feet, from floodmarks, Mar. 18, 1865 (discharge, about 232,000 second-feet).

Remarks.- Records good. Discharge for period of plugged intake, Jan. 29 to May 6, determined from twice-daily readings of wire-weight gage.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|---------|--------|-----------------|-------------------|--------|--------|--------|--------|-------|--------|--------|
| 1 | 2,290 | 23,800 | 14,300 | 8,630 | 13,600 | 9,210 | 15,700 | 8,730 | 5,680 | 6,560 | 3,820 | 2,200 |
| 2 | 2,200 | 18,100 | 12,200 | 9,500 | 14,600 | 8,340 | 14,900 | 8,170 | 5,190 | 5,550 | 4,480 | 2,080 |
| 3 | 2,120 | 14,600 | 10,700 | 9,800 | 14,000 | 8,630 | 14,500 | 7,620 | 4,830 | 4,600 | 4,260 | 1,920 |
| 4 | 2,030 | 12,900 | 9,210 | 8,920 | 13,600 | 10,400 | 12,900 | 7,350 | 4,720 | 3,930 | 3,620 | 1,900 |
| 5 | 2,030 | 11,600 | 8,340 | 8,060 | 14,600 | 11,900 | 11,700 | 6,820 | 4,720 | 3,510 | 3,310 | 1,750 |
| 6 | 2,030 | 10,700 | 7,780 | 7,220 | 17,300 | 13,100 | 10,800 | 6,560 | 4,600 | 3,210 | 3,110 | 1,690 |
| 7 | 2,030 | 9,800 | 7,780 | 7,640 | 19,700 | 43,800 | 10,200 | 6,300 | 4,260 | 2,920 | 2,820 | 1,640 |
| 8 | 2,030 | 8,920 | 7,640 | 8,630 | 30,500 | 35,100 | 9,900 | 6,050 | 4,040 | 2,730 | 2,640 | 1,610 |
| 9 | 1,960 | 8,340 | 7,080 | 9,500 | 35,900 | 22,900 | 11,100 | 5,680 | 3,720 | 2,760 | 3,020 | 1,580 |
| 10 | 1,880 | 8,060 | 6,410 | 8,060 | 33,000 | 16,900 | 16,100 | 5,430 | 3,510 | 2,550 | 2,640 | 1,660 |
| 11 | 1,880 | 7,500 | 5,360 | 7,780 | 32,000 | 13,700 | 20,400 | 5,430 | 3,510 | 2,280 | 2,820 | 1,690 |
| 12 | 1,960 | 7,360 | 5,240 | 7,080 | 26,200 | 11,700 | 26,400 | 5,550 | 3,510 | 2,080 | 5,430 | 1,720 |
| 13 | 2,030 | 8,060 | 4,370 | 6,950 | 22,000 | 10,800 | 36,900 | 5,510 | 3,620 | 2,050 | 14,300 | 1,840 |
| 14 | 2,200 | 28,100 | 4,370 | 6,540 | 36,300 | 14,600 | 40,100 | 5,070 | 4,040 | 2,060 | 10,100 | 1,750 |
| 15 | 2,200 | 49,100 | 5,660 | 6,410 | 43,900 | 27,900 | 32,700 | 5,920 | 4,150 | 2,000 | 7,080 | 1,970 |
| 16 | 2,200 | 30,800 | 4,370 | 5,360 | 32,200 | 25,400 | 25,400 | 7,350 | 5,070 | 1,900 | 5,310 | 5,580 |
| 17 | 2,120 | 23,300 | 5,750 | 5,360 | 22,800 | 23,900 | 20,400 | 10,200 | 4,600 | 1,920 | 4,260 | 9,600 |
| 18 | 2,030 | 18,900 | 16,900 | 4,490 | 18,900 | 36,000 | 18,100 | 13,700 | 3,930 | 1,950 | 3,820 | 7,550 |
| 19 | 2,200 | 16,500 | 50,600 | 4,010 | 17,300 | 42,900 | 17,700 | 11,100 | 3,410 | 1,950 | 11,600 | 6,300 |
| 20 | 2,480 | 14,600 | 50,400 | 3,320 | 21,000 | 38,700 | 18,500 | 9,310 | 3,110 | 2,050 | 6,560 | 6,300 |
| 21 | 3,320 | 13,600 | 34,600 | 3,320 | 21,000 | 35,700 | 18,500 | 8,170 | 2,820 | 2,030 | 6,180 | 7,740 |
| 22 | 3,430 | 12,600 | 25,200 | 3,660 | 17,300 | 32,700 | 17,700 | 7,890 | 2,640 | 5,450 | 4,950 | 24,800 |
| 23 | 16,800 | 11,600 | 20,600 | 4,490 | 15,000 | 30,300 | 17,300 | 8,170 | 2,550 | 8,170 | 3,930 | 57,000 |
| 24 | 60,800 | 10,400 | 18,100 | 5,110 | 14,000 | 28,500 | 19,400 | 9,020 | 2,370 | 9,020 | 3,510 | 64,100 |
| 25 | 55,200 | 9,800 | 15,400 | 12,900 | 13,600 | 33,900 | 16,900 | 10,200 | 2,280 | 5,800 | 3,410 | 55,300 |
| 26 | 36,000 | 9,210 | 13,600 | 37,100 | 12,600 | 31,500 | 14,900 | 10,200 | 2,370 | 4,950 | 3,510 | 36,800 |
| 27 | 22,000 | 8,920 | 12,200 | 50,200 | 11,500 | 25,900 | 12,900 | 10,200 | 3,390 | 4,150 | 3,210 | 23,400 |
| 28 | 17,700 | 9,500 | 11,000 | 32,800 | 10,400 | 22,400 | 11,700 | 8,730 | 6,580 | 3,510 | 2,920 | 17,500 |
| 29 | 27,600 | 11,600 | 10,100 | 21,000 | | 19,900 | 10,500 | 7,890 | 12,100 | 3,510 | 2,640 | 13,700 |
| 30 | 49,800 | 14,300 | 9,210 | 16,100 | | 17,700 | 9,600 | 7,080 | 8,450 | 4,370 | 2,480 | 11,700 |
| 31 | 34,600 | | 8,630 | 14,300 | | 16,100 | | 6,560 | | 4,370 | 2,370 | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October | 60,800 | 1,880 | 11,910 | 1.20 | 1.38 | | | | | | | |
| November | 49,100 | 7,360 | 14,750 | 1.48 | 1.65 | | | | | | | |
| December | 50,600 | 3,660 | 13,580 | 1.36 | 1.57 | | | | | | | |
| January | 50,200 | 3,320 | 11,100 | 1.11 | 1.28 | | | | | | | |
| February | 43,900 | 10,400 | 21,240 | 2.13 | 2.22 | | | | | | | |
| March | 43,800 | 8,340 | 23,240 | 2.33 | 2.69 | | | | | | | |
| April | 40,100 | 9,600 | 17,790 | 1.79 | 2.00 | | | | | | | |
| May | 13,700 | 5,070 | 7,799 | .783 | .90 | | | | | | | |
| June | 12,100 | 2,280 | 4,326 | .434 | .48 | | | | | | | |
| July | 9,020 | 1,900 | 3,667 | .368 | .42 | | | | | | | |
| August | 14,300 | 2,370 | 4,648 | .467 | .54 | | | | | | | |
| September | 64,100 | 1,580 | 12,470 | 1.25 | 1.40 | | | | | | | |
| The year | 64,100 | 1,580 | 12,130 | 1.22 | 1.65 | | | | | | | |

North Branch of Susquehanna River at Danville, Pa.

Location.- Wire-weight gage, lat. 40°57'25", long. 76°37'20", at highway bridge at Danville, Montour County, three-quarters of a mile above mouth of Mahoning Creek. Zero of gage is 431.07 feet above mean sea level (preliminary levels of 1934). Drainage area.- 11,220 square miles.

Records available.- March 1899 to December 1913, October 1918 to September 1921, July 1932 to September 1938 in reports of U. S. Geological Survey; March 1899 to December 1903, March 1905 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 35 years (1899-1900, 1901-3, 1905-31, 1932-38), 15,190 second-feet.

Extremes.- Maximum discharge during year, 79,400 second-feet Oct. 24 (gage height, 13.8 feet, from graph based on gage readings); minimum, 1,720 second-feet Sept. 10 (gage height, 2.22 feet).

1899-1938: Maximum discharge, 250,000 second-feet Mar. 20, 1936; maximum gage height, 30.7 feet, from floodmarks, Mar. 9, 1904 (affected by ice); minimum discharge, 830 second-feet Sept. 23-25, 1900 (gage height, 1.6 feet).

Remarks.- Records good except those for periods of ice effect, Dec. 15, 16, Jan. 18-23, which are fair and were determined from gage heights, weather records, and by comparison with records for stations upstream. Discharge for days of missing gage heights, Nov. 26, 27, May 30, July 5, Aug. 7, determined by comparison with records for stations upstream. Gage read twice daily.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|--------|--------|--------|--------|---------|---------|--------|-----------------|--------|-------------------|--------|--------|
| 1 | 2,440 | 33,600 | 16,900 | 11,900 | 16,900 | 11,900 | 17,500 | 10,500 | 7,120 | 8,740 | 6,730 | 2,600 |
| 2 | 2,320 | 24,700 | 14,800 | 13,500 | 15,900 | 10,900 | 16,900 | 9,590 | 6,350 | 7,510 | 6,730 | 2,600 |
| 3 | 2,320 | 19,200 | 12,800 | 13,500 | 16,900 | 9,590 | 15,900 | 9,160 | 6,350 | 5,980 | 6,350 | 2,340 |
| 4 | 2,190 | 15,900 | 10,900 | 11,900 | 16,900 | 10,500 | 14,800 | 8,320 | 5,980 | 5,260 | 5,440 | 2,080 |
| 5 | 2,190 | 13,800 | 10,000 | 10,500 | 16,400 | 13,800 | 13,800 | 7,910 | 5,620 | 4,500 | 4,740 | 2,210 |
| 6 | 2,080 | 12,300 | 9,160 | 9,590 | 19,200 | 14,800 | 12,800 | 7,910 | 5,440 | 4,080 | 4,400 | 2,080 |
| 7 | 2,080 | 11,400 | 8,740 | 9,160 | 26,600 | 31,100 | 11,900 | 7,510 | 5,260 | 3,610 | 4,000 | 1,960 |
| 8 | 2,080 | 10,600 | 8,740 | 10,000 | 30,800 | 48,000 | 11,900 | 6,730 | 4,910 | 3,310 | 3,760 | 1,960 |
| 9 | 1,960 | 10,000 | 8,740 | 10,500 | 43,800 | 30,800 | 12,300 | 6,730 | 4,570 | 3,020 | 3,460 | 1,840 |
| 10 | 2,080 | 9,160 | 7,610 | 10,900 | 40,600 | 21,500 | 18,000 | 6,350 | 4,240 | 3,020 | 3,760 | 1,720 |
| 11 | 1,960 | 8,320 | 6,730 | 9,160 | 38,200 | 16,900 | 23,400 | 6,350 | 4,080 | 3,020 | 3,460 | 1,840 |
| 12 | 1,960 | 7,910 | 5,980 | 8,740 | 35,100 | 14,800 | 27,300 | 5,980 | 4,080 | 3,610 | 3,610 | 1,840 |
| 13 | 2,080 | 9,160 | 5,800 | 8,320 | 27,300 | 13,300 | 38,200 | 5,980 | 4,240 | 2,740 | 8,500 | 1,960 |
| 14 | 2,080 | 14,300 | 4,740 | 7,910 | 33,600 | 14,300 | 45,400 | 5,980 | 4,400 | 2,600 | 14,800 | 2,080 |
| 15 | 2,190 | 51,300 | 4,400 | 7,510 | 51,000 | 27,200 | 40,600 | 5,980 | 4,570 | 2,470 | 9,590 | 2,210 |
| 16 | 2,190 | 44,800 | 4,700 | 7,120 | 43,800 | 33,600 | 32,900 | 7,910 | 4,570 | 2,470 | 7,120 | 2,470 |
| 17 | 2,190 | 30,800 | 5,620 | 5,980 | 30,000 | 29,300 | 26,000 | 8,740 | 5,260 | 2,210 | 5,440 | 7,470 |
| 18 | 2,190 | 24,000 | 10,200 | 5,200 | 25,300 | 35,100 | 22,200 | 13,300 | 4,740 | 2,340 | 5,080 | 9,590 |
| 19 | 2,320 | 19,800 | 44,600 | 4,500 | 20,900 | 48,000 | 22,200 | 14,300 | 4,400 | 2,340 | 5,760 | 7,120 |
| 20 | 3,310 | 17,500 | 64,600 | 5,800 | 24,000 | 46,300 | 21,500 | 11,400 | 3,760 | 2,340 | 10,500 | 6,730 |
| 21 | 3,820 | 15,900 | 47,100 | 3,800 | 28,600 | 41,800 | 22,200 | 10,000 | 3,310 | 2,740 | 6,610 | 8,320 |
| 22 | 3,990 | 14,300 | 33,600 | 4,100 | 23,400 | 38,200 | 21,500 | 8,740 | 3,160 | 4,940 | 6,350 | 15,900 |
| 23 | 19,000 | 12,800 | 26,000 | 4,500 | 19,200 | 35,100 | 20,400 | 8,740 | 3,020 | 11,900 | 5,080 | 60,200 |
| 24 | 69,500 | 11,900 | 21,500 | 5,440 | 17,500 | 32,900 | 20,900 | 10,900 | 2,880 | 15,900 | 4,240 | 67,800 |
| 25 | 72,100 | 10,900 | 19,200 | 10,600 | 16,400 | 33,600 | 20,900 | 13,300 | 2,600 | 11,400 | 3,760 | 62,400 |
| 26 | 52,500 | 10,000 | 16,400 | 29,800 | 15,300 | 37,400 | 18,600 | 12,800 | 2,600 | 7,510 | 3,610 | 47,100 |
| 27 | 32,900 | 9,700 | 14,300 | 61,800 | 14,300 | 32,200 | 15,900 | 12,800 | 3,310 | 6,350 | 3,760 | 30,300 |
| 28 | 24,700 | 10,000 | 12,800 | 47,100 | 13,300 | 26,000 | 13,800 | 11,400 | 7,520 | 5,260 | 3,460 | 21,600 |
| 29 | 26,600 | 11,900 | 11,900 | 30,800 | | 22,800 | 12,800 | 10,600 | 10,500 | 4,740 | 3,160 | 18,400 |
| 30 | 53,300 | 14,300 | 10,500 | 21,500 | | 20,400 | 11,900 | 9,000 | 12,800 | 6,730 | 2,880 | 13,800 |
| 31 | 51,600 | | 9,590 | 17,500 | | 18,600 | | 7,910 | | 5,980 | 2,740 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October | | | | | 72,100 | 1,960 | 14,650 | 1.31 | | 1.51 | | |
| November | | | | | 51,300 | 7,910 | 17,000 | 1.52 | | 1.70 | | |
| December | | | | | 64,600 | 4,400 | 15,760 | 1.40 | | 1.61 | | |
| January | | | | | 61,800 | 3,800 | 13,430 | 1.20 | | 1.38 | | |
| February | | | | | 51,000 | 13,300 | 25,760 | 2.30 | | 2.40 | | |
| March | | | | | 48,000 | 9,590 | 26,470 | 2.36 | | 2.72 | | |
| April | | | | | 45,400 | 11,900 | 20,810 | 1.63 | | 2.06 | | |
| May | | | | | 14,300 | 5,980 | 9,120 | .813 | | .94 | | |
| June | | | | | 12,800 | 2,600 | 5,060 | .451 | | .50 | | |
| July | | | | | 15,900 | 2,210 | 5,117 | .456 | | .53 | | |
| August | | | | | 14,800 | 2,740 | 6,448 | .486 | | .56 | | |
| September | | | | | 67,800 | 1,720 | 13,280 | 1.18 | | 1.32 | | |
| The year | | | | | 72,100 | 1,720 | 14,240 | 1.27 | | 17.23 | | |

Susquehanna River at Sunbury, Pa.

Location.— Water-stage recorder, lat. 40°50'55", long. 76°48'20", at highway bridge at Sunbury, Northumberland County, 1 mile above mouth of Shamokin Creek. Prior to Dec. 12, 1937, wire-weight gage at same site and datum. Zero of gage is 419.00 feet above mean sea level (general adjustment of 1907).

Drainage area.— 18,300 square miles.

Records available.— October 1937 to September 1938 in reports of U. S. Geological Survey; August 1916 to September 1938 (gage heights only prior to October 1937) in reports of Pennsylvania Department of Forests and Waters.

Extremes.— Maximum discharge during year, 140,000 second-feet Dec. 20 (gage height, 10.25 feet); minimum, 2,400 second-feet Sept. 10 (gage height, 0.60 foot).

1916-38: Maximum discharge, about 530,000 second-feet Mar. 19, 1936 (gage height, 26.85 feet, from floodmark); minimum gage height, 0.32 foot, at site 3,700 feet upstream, Sept. 25-27, 1932 (discharge not determined). Maximum flood known prior to 1916, 22.5 feet in March 1865 (discharge not determined).

Remarks.— Records good. Discharge for period of ice effect, Dec. 14-17, determined from gage heights, weather records, and by comparison with records for stations upstream. Discharge for period of recorder failure, Mar. 18-20, determined from twice-daily readings of wire-weight gage.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|---------|---------|-----------------|-------------------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 4,300 | 63,800 | 27,200 | 22,300 | 32,500 | 21,700 | 29,800 | 20,500 | 17,600 | 19,300 | 8,850 | 3,400 |
| 2 | 4,140 | 47,800 | 25,300 | 29,800 | 30,500 | 21,100 | 29,800 | 18,800 | 15,600 | 15,700 | 9,250 | 3,350 |
| 3 | 3,970 | 37,400 | 22,300 | 38,800 | 29,200 | 20,500 | 29,800 | 17,600 | 15,900 | 13,300 | 8,770 | 3,160 |
| 4 | 3,860 | 31,200 | 19,900 | 37,400 | 29,200 | 20,500 | 28,600 | 16,600 | 13,900 | 11,500 | 8,050 | 2,980 |
| 5 | 3,750 | 27,200 | 18,200 | 31,800 | 29,200 | 22,300 | 26,000 | 15,900 | 13,000 | 9,930 | 6,900 | 2,890 |
| 6 | 3,750 | 24,100 | 17,100 | 27,200 | 29,800 | 27,900 | 24,100 | 16,400 | 11,800 | 8,690 | 6,270 | 2,760 |
| 7 | 3,970 | 21,700 | 17,100 | 24,700 | 38,800 | 53,600 | 22,900 | 16,600 | 11,200 | 7,650 | 5,880 | 2,720 |
| 8 | 3,860 | 19,900 | 17,100 | 25,300 | 54,200 | 80,600 | 22,300 | 14,900 | 10,600 | 6,830 | 5,420 | 2,720 |
| 9 | 3,860 | 18,200 | 14,400 | 24,100 | 70,400 | 55,800 | 24,100 | 13,900 | 10,000 | 6,270 | 5,220 | 2,600 |
| 10 | 3,860 | 17,100 | 12,900 | 22,900 | 68,700 | 41,800 | 31,800 | 13,700 | 9,590 | 5,940 | 5,360 | 2,520 |
| 11 | 3,800 | 15,900 | 11,700 | 19,300 | 65,400 | 27,200 | 40,300 | 13,600 | 8,690 | 6,340 | 5,220 | 2,480 |
| 12 | 3,860 | 14,800 | 10,800 | 18,800 | 62,200 | 29,200 | 49,400 | 13,500 | 8,290 | 6,980 | 5,220 | 2,560 |
| 13 | 3,860 | 29,300 | 10,000 | 17,600 | 52,600 | 26,600 | 72,100 | 13,200 | 8,530 | 6,200 | 7,980 | 2,680 |
| 14 | 4,080 | 77,200 | 9,000 | 18,200 | 54,200 | 27,900 | 90,800 | 12,800 | 9,500 | 5,680 | 17,600 | 2,760 |
| 15 | 4,080 | 95,900 | 8,300 | 16,600 | 77,200 | 44,200 | 87,400 | 13,100 | 10,700 | 5,550 | 12,700 | 3,020 |
| 16 | 4,080 | 77,200 | 8,700 | 15,900 | 70,400 | 62,200 | 70,400 | 15,800 | 10,300 | 5,880 | 9,590 | 3,160 |
| 17 | 4,140 | 55,800 | 10,000 | 13,500 | 54,200 | 60,600 | 55,800 | 19,200 | 10,300 | 5,160 | 7,890 | 5,920 |
| 18 | 3,920 | 44,800 | 22,600 | 13,500 | 43,300 | 67,000 | 46,300 | 21,100 | 9,500 | 4,960 | 8,050 | 11,800 |
| 19 | 4,300 | 37,400 | 108,000 | 11,000 | 38,800 | 80,600 | 43,300 | 24,100 | 8,530 | 4,960 | 7,500 | 9,760 |
| 20 | 5,030 | 33,900 | 131,000 | 9,090 | 41,800 | 73,800 | 43,300 | 21,700 | 7,580 | 4,720 | 13,800 | 8,770 |
| 21 | 7,500 | 29,800 | 94,200 | 9,500 | 47,800 | 67,000 | 40,300 | 19,900 | 6,830 | 5,030 | 9,090 | 9,840 |
| 22 | 9,340 | 27,200 | 67,000 | 10,700 | 43,300 | 60,600 | 38,800 | 19,900 | 6,410 | 7,580 | 8,290 | 15,000 |
| 23 | 19,700 | 24,700 | 52,600 | 10,900 | 37,400 | 55,800 | 37,400 | 19,900 | 6,000 | 14,700 | 7,050 | 44,600 |
| 24 | 89,500 | 22,300 | 43,300 | 11,500 | 33,900 | 51,000 | 36,000 | 22,300 | 5,680 | 19,300 | 5,740 | 67,000 |
| 25 | 92,500 | 20,500 | 37,400 | 16,100 | 31,800 | 52,600 | 35,300 | 28,600 | 5,480 | 16,300 | 4,960 | 63,800 |
| 26 | 70,400 | 18,800 | 33,200 | 49,900 | 29,800 | 55,800 | 31,800 | 33,900 | 5,480 | 11,500 | 4,600 | 49,400 |
| 27 | 47,800 | 18,200 | 29,800 | 84,000 | 27,200 | 49,400 | 29,200 | 31,200 | 6,550 | 9,500 | 4,720 | 33,900 |
| 28 | 40,300 | 18,800 | 26,600 | 75,500 | 24,700 | 41,800 | 26,000 | 28,600 | 15,300 | 8,130 | 4,480 | 24,700 |
| 29 | 52,600 | 22,300 | 24,700 | 54,200 | 37,400 | 24,100 | 25,300 | 25,300 | 7,200 | 4,140 | 19,300 | |
| 30 | 99,500 | 24,700 | 22,300 | 40,300 | 33,900 | 22,300 | 22,300 | 26,600 | 8,610 | 3,800 | 16,100 | |
| 31 | 92,500 | 21,100 | 35,300 | 31,200 | 31,200 | 19,900 | 8,530 | 3,550 | | | | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October | 99,300 | 3,650 | 22,640 | 1.24 | 1.43 | | | | | | | |
| November | 95,900 | 14,800 | 33,930 | 1.85 | 2.06 | | | | | | | |
| December | 131,000 | 8,300 | 31,410 | 1.72 | 1.98 | | | | | | | |
| January | 84,000 | 9,090 | 26,960 | 1.47 | 1.70 | | | | | | | |
| February | 77,200 | 24,700 | 44,590 | 2.44 | 2.54 | | | | | | | |
| March | 80,600 | 20,500 | 45,210 | 2.47 | 2.85 | | | | | | | |
| April | 90,800 | 22,300 | 39,650 | 2.17 | 2.42 | | | | | | | |
| May | 33,900 | 12,800 | 19,480 | 1.06 | 1.22 | | | | | | | |
| June | 26,600 | 5,480 | 11,020 | .602 | .67 | | | | | | | |
| July | 19,300 | 4,720 | 8,965 | .490 | .56 | | | | | | | |
| August | 17,600 | 3,550 | 7,288 | .398 | .46 | | | | | | | |
| September | 67,000 | 2,480 | 14,190 | .775 | .86 | | | | | | | |
| The year | 131,000 | 2,480 | 25,300 | 1.38 | 18.75 | | | | | | | |

Susquehanna River at Harrisburg, Pa.

Location.— Water-stage recorder, lat. 40°15'10", long. 76°52'30", at Nagle Street, 500 feet above sanitary dam; water stage recorder at Market Street Bridge, 3,700 feet above sanitary dam; and wire-weight gage at Walnut Street Bridge, 500 feet above Market Street, in Harrisburg, Dauphin County. Zero of gages is 290.04 feet above mean sea level (general adjustment of 1929).

Drainage area.— 24,100 square miles.

Records available.— October 1890 to September 1938.

Average discharge.— 48 years, 34,690 second-feet.

Extremes.— Maximum discharge during year, 178,000 second-feet Dec. 20 (Nagle Street gage height, 10.28 feet; Walnut Street gage height, 11.52 feet); minimum, 3,500 second-feet Sept. 12 (Nagle Street gage height, 3.00 feet; Walnut Street gage height, 3.02 feet).

1890-1938: Maximum discharge, 740,000 second-feet Mar. 19, 1936 (Nagle Street gage height, 29.23 feet; Walnut Street gage height, 30.33 feet); minimum, 1,600 second-feet Nov. 29, 1930 (Nagle Street gage height, 2.48 feet; Walnut Street gage height, 2.56 feet).

Maximum flood known prior to 1890, 26.8 feet at Walnut Street June 2, 1889 (discharge, about 699,000 second-feet).

Remarks.— Records excellent except those for periods of ice effect, Dec. 9-19, Jan. 18-24, which are good and were determined from power-house records of the Holt-wood plant of the Pennsylvania Water & Power Co.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|---------|---------|---------|---------|---------|---------|-----------------|--------|-------------------|--------|--------|
| 1 | 6,616 | 99,500 | 31,600 | 27,200 | 40,600 | 60,300 | 39,200 | 26,700 | 25,000 | 28,600 | 11,200 | 5,480 |
| 2 | 6,480 | 71,600 | 32,800 | 36,600 | 39,200 | 29,300 | 37,900 | 24,600 | 22,000 | 22,300 | 12,200 | 5,040 |
| 3 | 6,350 | 53,600 | 29,800 | 47,600 | 36,600 | 27,900 | 37,900 | 23,200 | 20,900 | 18,400 | 11,800 | 4,600 |
| 4 | 6,090 | 44,700 | 27,200 | 50,500 | 35,300 | 26,500 | 37,900 | 22,300 | 20,100 | 16,100 | 11,000 | 4,380 |
| 5 | 5,960 | 37,900 | 24,400 | 43,300 | 35,300 | 26,700 | 35,300 | 20,700 | 19,000 | 14,100 | 10,200 | 4,160 |
| 6 | 5,960 | 34,000 | 23,200 | 37,900 | 35,300 | 29,100 | 34,000 | 20,300 | 17,300 | 12,300 | 9,350 | 3,830 |
| 7 | 5,960 | 30,300 | 22,700 | 35,300 | 43,400 | 40,900 | 32,800 | 20,300 | 16,100 | 10,700 | 8,300 | 3,830 |
| 8 | 5,830 | 27,400 | 20,500 | 34,000 | 62,900 | 89,300 | 31,600 | 20,300 | 15,200 | 9,650 | 8,170 | 4,060 |
| 9 | 5,960 | 25,000 | 18,000 | 34,000 | 81,300 | 75,800 | 31,600 | 18,600 | 14,300 | 8,900 | 7,780 | 3,830 |
| 10 | 6,090 | 23,400 | 15,000 | 31,600 | 84,000 | 56,700 | 37,900 | 17,500 | 13,200 | 8,450 | 7,520 | 3,610 |
| 11 | 5,960 | 21,600 | 13,000 | 29,300 | 78,600 | 44,700 | 46,100 | 17,100 | 12,700 | 7,780 | 7,390 | 3,610 |
| 12 | 6,090 | 20,300 | 12,000 | 28,400 | 75,800 | 37,900 | 55,100 | 16,900 | 12,500 | 11,700 | 7,390 | 3,610 |
| 13 | 6,090 | 36,600 | 11,000 | 25,000 | 67,300 | 35,300 | 71,600 | 16,500 | 12,500 | 11,600 | 7,520 | 3,720 |
| 14 | 6,090 | 112,000 | 11,000 | 25,500 | 58,300 | 34,000 | 99,500 | 16,300 | 12,500 | 9,500 | 9,170 | 3,940 |
| 15 | 6,350 | 119,000 | 11,000 | 24,400 | 75,800 | 48,000 | 104,000 | 16,500 | 13,000 | 8,300 | 18,400 | 4,600 |
| 16 | 6,480 | 117,000 | 12,000 | 22,300 | 89,300 | 86,700 | 91,900 | 17,100 | 13,500 | 7,650 | 14,100 | 4,490 |
| 17 | 6,220 | 84,000 | 15,000 | 20,700 | 73,000 | 102,000 | 70,200 | 20,300 | 13,400 | 7,780 | 11,300 | 4,710 |
| 18 | 5,960 | 64,400 | 25,000 | 17,400 | 56,700 | 99,500 | 59,800 | 21,800 | 13,000 | 7,260 | 12,500 | 5,390 |
| 19 | 6,740 | 52,000 | 70,000 | 13,000 | 49,000 | 107,000 | 52,000 | 25,500 | 12,200 | 6,870 | 12,300 | 12,800 |
| 20 | 8,750 | 44,700 | 171,000 | 12,000 | 49,000 | 107,000 | 52,000 | 27,200 | 11,200 | 7,130 | 10,600 | 12,200 |
| 21 | 11,300 | 40,600 | 136,000 | 12,000 | 58,300 | 94,500 | 49,000 | 25,500 | 10,200 | 7,260 | 14,900 | 11,800 |
| 22 | 13,000 | 36,600 | 94,500 | 12,000 | 59,800 | 84,000 | 47,600 | 25,300 | 9,350 | 8,450 | 10,800 | 13,700 |
| 23 | 18,400 | 32,800 | 71,300 | 14,000 | 52,000 | 73,000 | 44,700 | 26,000 | 8,600 | 13,200 | 9,650 | 21,300 |
| 24 | 66,100 | 30,300 | 58,300 | 17,000 | 46,100 | 67,300 | 42,000 | 32,800 | 8,170 | 22,000 | 8,600 | 59,800 |
| 25 | 122,000 | 27,900 | 49,000 | 22,000 | 43,300 | 62,900 | 42,000 | 42,000 | 7,910 | 24,800 | 7,390 | 70,200 |
| 26 | 99,500 | 25,500 | 43,300 | 51,300 | 40,600 | 64,400 | 40,600 | 44,700 | 7,910 | 20,300 | 6,480 | 62,900 |
| 27 | 70,200 | 24,400 | 39,200 | 97,000 | 36,600 | 64,400 | 36,600 | 43,300 | 9,650 | 15,400 | 5,960 | 44,700 |
| 28 | 61,400 | 24,100 | 35,300 | 102,000 | 35,300 | 56,700 | 32,800 | 39,200 | 10,800 | 12,800 | 5,830 | 32,800 |
| 29 | 84,000 | 25,700 | 31,600 | 73,000 | 49,000 | 30,300 | 36,600 | 21,400 | 11,200 | 5,700 | 24,800 | |
| 30 | 119,000 | 29,100 | 29,800 | 55,100 | 44,700 | 28,400 | 31,600 | 30,300 | 10,600 | 5,370 | 20,100 | |
| 31 | 138,000 | | 27,400 | 46,100 | | 40,600 | | 28,100 | | 10,700 | 5,150 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October | | | | | 138,000 | 5,830 | 29,970 | 1.24 | | 1.43 | | |
| November | | | | | 119,000 | 20,300 | 47,220 | 1.96 | | 2.19 | | |
| December | | | | | 171,000 | 11,000 | 39,100 | 1.62 | | 1.87 | | |
| January | | | | | 102,000 | 12,000 | 35,400 | 1.47 | | 1.70 | | |
| February | | | | | 89,300 | 35,300 | 54,950 | 2.28 | | 2.37 | | |
| March | | | | | 107,000 | 26,500 | 59,230 | 2.46 | | 2.84 | | |
| April | | | | | 104,000 | 28,400 | 48,410 | 2.01 | | 2.24 | | |
| May | | | | | 44,700 | 16,300 | 25,320 | 1.05 | | 1.21 | | |
| June | | | | | 30,300 | 7,910 | 14,460 | .600 | | .57 | | |
| July | | | | | 28,600 | 6,870 | 12,640 | .524 | | .60 | | |
| August | | | | | 18,400 | 5,150 | 9,485 | .394 | | .45 | | |
| September | | | | | 70,200 | 3,610 | 15,470 | .642 | | .72 | | |
| The year | | | | | 171,000 | 3,610 | 32,470 | 1.35 | | 18.29 | | |

SUSQUEHANNA RIVER BASIN

Susquehanna River at Marietta, Pa.

Location.— Water-stage recorder, lat. 40°03'15", long. 76°31'50", 420 feet above mouth of Chickies Creek and 1 mile below Marietta, Lancaster County. Zero of gage is 200.00 feet above mean sea level (general adjustment of 1929).

Drainage area.— 25,990 square miles.

Records available.— October 1931 to September 1938.

Extremes.— Maximum discharge during year, 176,000 second-feet Dec. 20 (gage height, 44.81 feet); minimum, 2,520 second-feet Oct. 11 (gage height, 31.79 feet); minimum daily discharge, 3,980 second-feet Sept. 11.

1931-38: Maximum discharge, 787,000 second-feet Mar. 19, 1936 (gage height, 60.73 feet), from rating curve extended above 450,000 second-feet; minimum, 618 second-feet Sept. 26, 1932 (gage height, 30.89 feet), during shut-down at York Haven power plant in order to obtain current-meter measurements at low water; minimum daily discharge, 1,380 second-feet Sept. 26, 1932.

Maximum flood known prior to 1931, 58.3 feet, from floodmark, June 2, 1889 (discharge, about 700,000 second-feet).

Remarks.— Records excellent except those for periods of ice effect, Dec. 9-18, Jan. 19-23, which are good and were determined from power-house records of Holtwood plant of Pennsylvania Water and Power Co. Flows below 8,000 second-feet regulated by Metropolitan Edison Co. plant at York Haven.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|-----------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|-----------------|--------|-------------------|--|
| 1 | 6,570 | 113,000 | 32,900 | 29,000 | 44,800 | 32,900 | 42,200 | 28,000 | 27,100 | 31,900 | 12,500 | 6,560 | | |
| 2 | 6,130 | 81,800 | 35,100 | 35,200 | 42,200 | 30,900 | 41,000 | 26,300 | 23,900 | 25,400 | 13,400 | 7,490 | | |
| 3 | 6,180 | 63,300 | 32,900 | 48,800 | 44,800 | 29,900 | 41,000 | 24,600 | 22,300 | 20,800 | 14,300 | 5,770 | | |
| 4 | 6,460 | 51,500 | 29,600 | 55,800 | 41,000 | 27,600 | 39,800 | 23,900 | 21,600 | 18,000 | 13,100 | 4,900 | | |
| 5 | 6,030 | 43,500 | 27,100 | 50,100 | 37,800 | 27,700 | 37,400 | 22,300 | 20,800 | 16,000 | 12,200 | 4,710 | | |
| 6 | 6,320 | 37,000 | 25,400 | 43,500 | 37,400 | 29,900 | 34,000 | 21,600 | 19,400 | 14,000 | 11,100 | 4,690 | | |
| 7 | 6,090 | 32,900 | 24,600 | 39,800 | 40,800 | 36,900 | 31,900 | 20,800 | 18,000 | 12,200 | 10,300 | 4,290 | | |
| 8 | 5,660 | 29,900 | 21,600 | 37,800 | 63,300 | 80,200 | 30,900 | 20,800 | 16,600 | 11,100 | 9,490 | 4,180 | | |
| 9 | 6,330 | 27,100 | 20,000 | 36,200 | 81,900 | 86,500 | 31,900 | 20,100 | 16,000 | 10,000 | 9,240 | 4,660 | | |
| 10 | 8,130 | 25,400 | 17,000 | 31,900 | 90,200 | 64,900 | 36,200 | 18,700 | 14,600 | 9,490 | 8,750 | 4,240 | | |
| 11 | 4,060 | 23,100 | 13,000 | 30,900 | 83,000 | 51,500 | 46,100 | 18,000 | 13,700 | 9,040 | 8,280 | 3,980 | | |
| 12 | 5,740 | 22,300 | 13,500 | 27,100 | 80,100 | 42,200 | 55,800 | 18,000 | 14,000 | 12,100 | 8,510 | 4,210 | | |
| 13 | 6,040 | 39,700 | 12,000 | 27,100 | 74,400 | 37,400 | 68,000 | 17,300 | 15,000 | 17,000 | 7,910 | 4,010 | | |
| 14 | 5,930 | 115,000 | 12,500 | 26,300 | 64,900 | 36,200 | 93,800 | 17,300 | 13,700 | 12,500 | 8,280 | 4,130 | | |
| 15 | 6,050 | 124,000 | 12,500 | 24,900 | 72,800 | 52,400 | 109,000 | 18,000 | 13,400 | 10,300 | 14,700 | 5,850 | | |
| 16 | 6,070 | 126,000 | 13,000 | 23,100 | 93,800 | 87,900 | 97,600 | 18,000 | 14,000 | 9,090 | 18,000 | 7,280 | | |
| 17 | 6,160 | 97,600 | 15,000 | 22,300 | 81,100 | 109,000 | 81,300 | 19,400 | 14,600 | 8,510 | 14,300 | 8,230 | | |
| 18 | 6,460 | 74,700 | 21,000 | 20,100 | 63,300 | 107,000 | 66,500 | 22,300 | 13,700 | 8,990 | 16,000 | 5,680 | | |
| 19 | 7,850 | 60,300 | 64,100 | 14,000 | 53,800 | 111,000 | 58,800 | 24,600 | 13,700 | 9,500 | 15,600 | 8,770 | | |
| 20 | 15,300 | 52,400 | 166,000 | 13,000 | 54,300 | 113,000 | 55,800 | 28,000 | 12,200 | 8,280 | 13,400 | 16,300 | | |
| 21 | 16,600 | 46,100 | 150,000 | 14,000 | 66,500 | 101,000 | 54,300 | 26,300 | 10,800 | 9,380 | 13,200 | 16,600 | | |
| 22 | 14,300 | 41,000 | 107,000 | 13,000 | 68,000 | 90,200 | 51,500 | 27,100 | 10,300 | 9,750 | 14,700 | 17,000 | | |
| 23 | 33,100 | 36,200 | 82,800 | 16,000 | 60,300 | 81,300 | 48,700 | 26,300 | 9,490 | 13,300 | 11,100 | 16,700 | | |
| 24 | 66,400 | 32,900 | 66,500 | 18,000 | 54,300 | 73,600 | 46,100 | 36,100 | 8,680 | 21,600 | 10,000 | 50,100 | | |
| 25 | 126,000 | 29,900 | 55,800 | 29,900 | 48,700 | 68,000 | 44,800 | 46,100 | 8,410 | 27,100 | 8,990 | 74,500 | | |
| 26 | 109,000 | 28,000 | 48,700 | 45,300 | 45,200 | 69,600 | 43,500 | 47,400 | 8,060 | 24,600 | 7,530 | 68,000 | | |
| 27 | 81,800 | 26,300 | 43,000 | 93,800 | 41,000 | 71,200 | 39,800 | 48,700 | 12,400 | 19,400 | 6,260 | 54,300 | | |
| 28 | 71,200 | 29,000 | 38,600 | 109,000 | 37,400 | 63,300 | 36,200 | 43,500 | 15,000 | 16,000 | 6,320 | 58,700 | | |
| 29 | 88,300 | 29,900 | 35,100 | 83,800 | 54,300 | 32,900 | 38,600 | 16,700 | 13,700 | 6,130 | 29,000 | 29,000 | | |
| 30 | 114,000 | 30,900 | 31,900 | 69,600 | 48,700 | 29,900 | 55,100 | 29,000 | 12,500 | 6,080 | 23,100 | 23,100 | | |
| 31 | 144,000 | | 29,900 | 55,800 | 44,800 | | 30,900 | | 11,600 | 5,760 | | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October | | | | | 144,000 | | 4,060 | | 32,200 | | 1.24 | | 1.43 | |
| November | | | | | 126,000 | | 22,300 | | 52,360 | | 2.01 | | 2.24 | |
| December | | | | | 166,000 | | 12,000 | | 41,870 | | 1.61 | | 1.86 | |
| January | | | | | 109,000 | | 13,000 | | 38,230 | | 1.47 | | 1.70 | |
| February | | | | | 93,800 | | 37,400 | | 59,540 | | 2.29 | | 2.38 | |
| March | | | | | 113,000 | | 27,600 | | 63,260 | | 2.43 | | 2.80 | |
| April | | | | | 109,000 | | 29,900 | | 50,890 | | 1.96 | | 2.19 | |
| May | | | | | 48,700 | | 17,300 | | 26,910 | | 1.04 | | 1.20 | |
| June | | | | | 29,000 | | 8,060 | | 15,570 | | .599 | | .67 | |
| July | | | | | 31,900 | | 8,280 | | 14,620 | | .563 | | .65 | |
| August | | | | | 18,000 | | 5,760 | | 10,820 | | .416 | | .48 | |
| September | | | | | 74,500 | | 3,980 | | 16,860 | | .649 | | .72 | |
| The year | | | | | 166,000 | | 3,980 | | 35,080 | | 1.35 | | 18.32 | |

SUSQUEHANNA RIVER BASIN

Towanda Creek near Monroeton, Pa.

Location.— Chain gage, lat. 41°42'35", long. 76°29'00", at highway bridge 1½ miles above mouth of South Branch of Towanda Creek and 1½ miles southwest of Monroeton, Bradford County. Zero of gage is 774.14 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.— 214 square miles.

Records available.— October 1920 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; January 1914 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 20 years (1914-16, 1920-38), 283 second-feet.

Extremes.— Maximum discharge observed during year, 4,310 second-feet Nov. 13 (gage height, 6.40 feet); minimum, 4.1 second-feet Sept. 6 (gage height, 0.45 foot). 1914-38: Maximum discharge, about 15,800 second-feet Nov. 16, 1926 (gage height, 11.0 feet, from graph based on gage readings); minimum, 0.7 second-foot Sept. 15, 17, 21, 22, 1932.

Remarks.— Records poor. Discharge for periods of ice effect, Dec. 10-17, Jan. 10-24, determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|-------|-------|-------|-------|---------|-------|---------|-----|------|------|-----------------|-------|-------------------|--|
| 1 | 20 | 284 | 265 | 186 | 203 | 137 | 265 | 129 | 90 | 76 | 43 | 7.8 | | |
| 2 | 18 | 222 | 219 | 247 | 177 | 140 | 247 | 116 | 78 | 67 | 60 | 7.4 | | |
| 3 | 18 | 196 | 200 | 177 | 317 | 169 | 229 | 108 | 85 | 70 | 40 | 6.0 | | |
| 4 | 20 | 152 | 194 | 144 | 373 | 149 | 203 | 162 | 76 | 56 | 27 | 5.6 | | |
| 5 | 21 | 142 | 159 | 137 | 223 | 126 | 191 | 135 | 65 | 43 | 21 | 5.1 | | |
| 6 | 21 | 124 | 166 | 122 | 272 | 760 | 175 | 122 | 58 | 34 | 15 | 4.3 | | |
| 7 | 22 | 111 | 162 | 164 | 1,020 | 349 | 175 | 102 | 54 | 29 | 13 | 4.3 | | |
| 8 | 22 | 103 | 146 | 200 | 449 | 207 | 186 | 90 | 46 | 24 | 14 | 6.4 | | |
| 9 | 20 | 97 | 118 | 154 | 449 | 164 | 373 | 90 | 41 | 22 | 74 | 5.6 | | |
| 10 | 23 | 92 | 110 | 140 | 795 | 146 | 564 | 135 | 36 | 21 | 26 | 6.4 | | |
| 11 | 25 | 94 | 100 | 130 | 349 | 129 | 691 | 122 | 33 | 18 | 60 | 4.6 | | |
| 12 | 26 | 73 | 95 | 120 | 327 | 135 | 1,060 | 100 | 53 | 21 | 44 | 4.6 | | |
| 13 | 28 | 2,410 | 92 | 110 | 760 | 186 | 1,020 | 92 | 126 | 18 | 28 | 6.0 | | |
| 14 | 30 | 1,800 | 90 | 100 | 1,100 | 658 | 760 | 85 | 73 | 15 | 15 | 8.1 | | |
| 15 | 28 | 830 | 88 | 90 | 505 | 397 | 595 | 216 | 55 | 21 | 13 | 15 | | |
| 16 | 26 | 564 | 94 | 80 | 327 | 477 | 534 | 247 | 42 | 21 | 10 | 18 | | |
| 17 | 24 | 449 | 170 | 72 | 327 | 760 | 423 | 172 | 35 | 16 | 27 | 15 | | |
| 18 | 22 | 373 | 2,440 | 66 | 285 | 1,410 | 373 | 142 | 32 | 25 | 636 | 15 | | |
| 19 | 24 | 327 | 1,060 | 62 | 327 | 900 | 534 | 129 | 29 | 47 | 159 | 21 | | |
| 20 | 33 | 265 | 691 | 60 | 373 | 865 | 373 | 144 | 27 | 33 | 72 | 27 | | |
| 21 | 80 | 229 | 505 | 60 | 229 | 726 | 327 | 229 | 22 | 30 | 48 | 163 | | |
| 22 | 54 | 200 | 397 | 63 | 207 | 626 | 327 | 197 | 20 | 263 | 32 | 472 | | |
| 23 | 1,920 | 172 | 349 | 68 | 226 | 564 | 305 | 186 | 18 | 124 | 18 | 349 | | |
| 24 | 870 | 154 | 247 | 85 | 229 | 726 | 247 | 265 | 19 | 78 | 21 | 186 | | |
| 25 | 356 | 144 | 229 | 1,490 | 191 | 534 | 229 | 265 | 21 | 76 | 16 | 112 | | |
| 26 | 222 | 144 | 210 | 626 | 152 | 449 | 207 | 210 | 21 | 44 | 14 | 80 | | |
| 27 | 251 | 162 | 172 | 349 | 154 | 373 | 183 | 200 | 377 | 42 | 12 | 62 | | |
| 28 | 1,250 | 226 | 164 | 285 | 126 | 305 | 166 | 180 | 442 | 35 | 10 | 50 | | |
| 29 | 2,040 | 691 | 144 | 265 | | 265 | 152 | 162 | 180 | 35 | 8.8 | 44 | | |
| 30 | 692 | 327 | 122 | 247 | | 247 | 140 | 135 | 106 | 102 | 8.4 | 37 | | |
| 31 | 386 | | 126 | 229 | | 247 | | 104 | | 53 | 7.8 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 2,040 | | 18 | | 277 | | 1.29 | | 1.49 | |
| November..... | | | | | 2,410 | | 73 | | 372 | | 1.74 | | 1.94 | |
| December..... | | | | | 2,440 | | 88 | | 301 | | 1.41 | | 1.63 | |
| January..... | | | | | 1,490 | | 60 | | 204 | | .953 | | 1.10 | |
| February..... | | | | | 1,100 | | 126 | | 374 | | 1.75 | | 1.82 | |
| March..... | | | | | 1,410 | | 126 | | 430 | | 2.01 | | 2.32 | |
| April..... | | | | | 1,060 | | 140 | | 375 | | 1.75 | | 1.95 | |
| May..... | | | | | 265 | | 90 | | 154 | | .720 | | .83 | |
| June..... | | | | | 442 | | 18 | | 78.7 | | .368 | | .41 | |
| July..... | | | | | 263 | | 15 | | 50.9 | | .238 | | .27 | |
| August..... | | | | | 636 | | 7.8 | | 51.4 | | .240 | | .28 | |
| September..... | | | | | 472 | | 4.3 | | 58.3 | | .272 | | .30 | |
| The year..... | | | | | 2,440 | | 4.3 | | 226 | | 1.06 | | 14.34 | |

SUSQUEHANNA RIVER BASIN

SUSQUEHANNA RIVER BASIN

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|------|-------|-------|-------|-------|-------|-----|------|------|------|-------|
| 1 | 58 | 468 | 389 | 497 | 364 | 341 | 588 | 276 | 195 | 228 | 201 | 56 |
| 2 | 58 | 441 | 364 | 414 | 318 | 364 | 468 | 228 | 179 | 257 | 341 | 57 |
| 3 | 54 | 389 | 276 | 364 | 444 | 414 | 441 | 221 | 195 | 204 | 204 | 56 |
| 4 | 62 | 341 | 257 | 257 | 946 | 221 | 389 | 221 | 182 | 165 | 156 | 48 |
| 5 | 58 | 297 | 276 | 276 | 441 | 345 | 341 | 204 | 151 | 138 | 122 | 44 |
| 6 | 64 | 276 | 297 | 257 | 621 | 1,600 | 318 | 198 | 145 | 125 | 99 | 42 |
| 7 | 76 | 257 | 318 | 560 | 2,580 | 745 | 318 | 182 | 128 | 111 | 93 | 45 |
| 8 | 68 | 257 | 238 | 644 | 967 | 557 | 414 | 156 | 115 | 91 | 95 | 55 |
| 9 | 62 | 238 | 200 | 297 | 914 | 414 | 665 | 170 | 125 | 81 | 83 | 63 |
| 10 | 66 | 218 | 180 | 297 | 1,520 | 389 | 1,210 | 176 | 95 | 72 | 79 | 48 |
| 11 | 92 | 185 | 170 | 280 | 762 | 318 | 1,080 | 198 | 102 | 83 | 837 | 43 |
| 12 | 81 | 185 | 160 | 230 | 689 | 341 | 1,040 | 165 | 146 | 93 | 613 | 44 |
| 13 | 135 | 377 | 150 | 220 | 2,750 | 441 | 955 | 151 | 613 | 81 | 318 | 51 |
| 14 | 159 | 526 | 140 | 210 | 2,260 | 1,050 | 836 | 146 | 276 | 72 | 231 | 83 |
| 15 | 107 | 389 | 140 | 190 | 1,170 | 1,080 | 724 | 537 | 198 | 67 | 195 | 114 |
| 16 | 92 | 341 | 150 | 170 | 761 | 915 | 621 | 494 | 162 | 83 | 159 | 145 |
| 17 | 79 | 318 | 350 | 150 | 588 | 1,210 | 557 | 297 | 140 | 58 | 140 | 102 |
| 18 | 81 | 318 | 4,460 | 130 | 654 | 1,700 | 497 | 218 | 135 | 60 | 264 | 95 |
| 19 | 72 | 276 | 3,200 | 120 | 845 | 1,300 | 987 | 201 | 111 | 75 | 218 | 104 |
| 20 | 312 | 276 | 1,800 | 110 | 1,620 | 1,300 | 780 | 207 | 106 | 77 | 162 | 189 |
| 21 | 420 | 276 | 1,300 | 110 | 724 | 1,170 | 689 | 218 | 93 | 73 | 132 | 1,600 |
| 22 | 281 | 276 | 1,040 | 120 | 621 | 1,080 | 724 | 276 | 87 | 740 | 122 | 3,970 |
| 23 | 5,440 | 235 | 915 | 140 | 588 | 955 | 654 | 238 | 81 | 761 | 106 | 2,180 |
| 24 | 3,930 | 218 | 621 | 198 | 588 | 1,040 | 557 | 681 | 81 | 497 | 95 | 1,400 |
| 25 | 1,800 | 182 | 588 | 4,030 | 497 | 798 | 468 | 732 | 65 | 297 | 85 | 951 |
| 26 | 1,210 | 228 | 557 | 1,800 | 297 | 724 | 414 | 468 | 72 | 207 | 72 | 661 |
| 27 | 875 | 297 | 441 | 836 | 389 | 654 | 364 | 468 | 449 | 159 | 65 | 520 |
| 28 | 798 | 489 | 414 | 497 | 318 | 588 | 341 | 364 | 798 | 128 | 58 | 441 |
| 29 | 1,170 | 761 | 364 | 414 | 526 | 318 | 297 | 414 | 163 | 62 | 355 | |
| 30 | 798 | 497 | 318 | 497 | 497 | 297 | 297 | 276 | 211 | 66 | 301 | |
| 31 | 588 | | 318 | 654 | | 468 | | 214 | | 166 | | |

| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|---------|---------|------|-----------------|-------------------|
| October..... | 5,440 | 54 | 618 | 1.61 | 1.86 |
| November..... | 761 | 182 | 328 | .856 | .96 |
| December..... | 4,480 | 140 | 658 | 1.72 | 1.98 |
| January..... | 4,030 | 110 | 482 | 1.26 | 1.45 |
| February..... | 2,750 | 297 | 901 | 2.35 | 2.45 |
| March..... | 1,700 | 221 | 760 | 1.98 | 2.28 |
| April..... | 1,210 | 297 | 602 | 1.57 | 1.75 |
| May..... | 732 | 146 | 286 | .747 | .86 |
| June..... | 798 | 65 | 197 | .614 | .67 |
| July..... | 761 | 58 | 181 | .473 | .55 |
| August..... | 837 | 56 | 178 | .465 | .54 |
| September..... | 3,970 | 43 | 461 | 1.20 | 1.34 |
| The year..... | 5,440 | 43 | 468 | 1.22 | 16.59 |

SUSQUEHANNA RIVER BASIN

SUSQUEHANNA RIVER BASIN

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept | |
|----------------|------|------|------|---------|------|---------|------|------|------|-----------------|------|-------------------|--|
| 1 | 7.0 | 111 | 48 | 182 | 80 | 60 | 48 | 54 | 45 | 53 | 92 | 19 | |
| 2 | 5.9 | 96 | 46 | 142 | 70 | 70 | 42 | 50 | 42 | 52 | 97 | 17 | |
| 3 | 5.6 | 85 | 54 | 105 | 77 | 86 | 39 | 49 | 58 | 43 | 63 | 12 | |
| 4 | 5.9 | 71 | 59 | 87 | 91 | 72 | 38 | 55 | 44 | 37 | 50 | 12 | |
| 5 | 5.9 | 62 | 40 | 78 | 67 | 58 | 35 | 48 | 38 | 33 | 43 | 11 | |
| 6 | 7.0 | 57 | 41 | 70 | 75 | 83 | 35 | 46 | 35 | 29 | 48 | 11 | |
| 7 | 7.3 | 51 | 42 | 91 | 188 | 60 | 39 | 42 | 32 | 26 | 38 | 11 | |
| 8 | 6.2 | 48 | 40 | 81 | 114 | 54 | 42 | 38 | 39 | 23 | 35 | 14 | |
| 9 | 6.2 | 45 | 38 | 75 | 106 | 49 | 217 | 38 | 30 | 26 | 32 | 13 | |
| 10 | 7.6 | 40 | 36 | 66 | 108 | 46 | 202 | 40 | 26 | 38 | 30 | 11 | |
| 11 | 8.0 | 39 | 34 | 60 | 84 | 50 | 161 | 38 | 30 | 27 | 41 | 11 | |
| 12 | 8.4 | 38 | 33 | 54 | 75 | 44 | 141 | 36 | 28 | 31 | 30 | 10 | |
| 13 | 8.4 | 154 | 32 | 52 | 99 | 52 | 122 | 35 | 59 | 41 | 25 | 11 | |
| 14 | 8.7 | 96 | 31 | 48 | 99 | 93 | 114 | 36 | 49 | 26 | 23 | 12 | |
| 15 | 8.7 | 68 | 30 | 46 | 79 | 124 | 104 | 142 | 32 | 28 | 21 | 19 | |
| 16 | 8.0 | 60 | 32 | 42 | 75 | 99 | 101 | 95 | 27 | 22 | 20 | 15 | |
| 17 | 7.6 | 58 | 50 | 37 | 76 | 108 | 91 | 64 | 24 | 19 | 19 | 14 | |
| 18 | 7.3 | 56 | 190 | 33 | 61 | 127 | 104 | 55 | 25 | 18 | 31 | 14 | |
| 19 | 17 | 52 | 110 | 28 | 68 | 101 | 146 | 52 | 24 | 19 | 26 | 14 | |
| 20 | 71 | 54 | 84 | 26 | 129 | 95 | 105 | 54 | 21 | 24 | 20 | 49 | |
| 21 | 43 | 51 | 76 | 25 | 89 | 87 | 96 | 55 | 19 | 22 | 18 | 143 | |
| 22 | 26 | 48 | 70 | 26 | 79 | 78 | 115 | 49 | 18 | 362 | 17 | 137 | |
| 23 | 876 | 44 | 66 | 28 | 82 | 74 | 99 | 44 | 18 | 537 | 16 | 74 | |
| 24 | 381 | 42 | 58 | 35 | 84 | 71 | 85 | 230 | 17 | 360 | 14 | 47 | |
| 25 | 178 | 50 | 58 | 297 | 76 | 62 | 79 | 152 | 16 | 205 | 14 | 36 | |
| 26 | 123 | 41 | 55 | 180 | 68 | 60 | 72 | 112 | 21 | 138 | 14 | 30 | |
| 27 | 95 | 47 | 53 | 110 | 63 | 58 | 65 | 105 | 219 | 99 | 13 | 31 | |
| 28 | 290 | 63 | 48 | 85 | 58 | 52 | 62 | 88 | 209 | 75 | 12 | 31 | |
| 29 | 297 | 69 | 45 | 75 | | 48 | 60 | 62 | 93 | 149 | 12 | 25 | |
| 30 | 190 | 54 | 43 | 76 | | 47 | 57 | 73 | 62 | 134 | 12 | 22 | |
| 31 | 139 | | 43 | 90 | | 49 | | 55 | | 83 | 12 | | |
| Month | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | 876 | | 5.6 | | 92.1 | | 2.00 | | 2.31 | |
| November..... | | | | 154 | | 38 | | 51.6 | | 1.54 | | 1.50 | |
| December..... | | | | 190 | | 30 | | 54.4 | | 1.19 | | 1.37 | |
| January..... | | | | 297 | | 25 | | 77.7 | | 1.70 | | 1.96 | |
| February..... | | | | 188 | | 58 | | 86.4 | | 1.89 | | 1.97 | |
| March..... | | | | 127 | | 44 | | 71.5 | | 1.56 | | 1.80 | |
| April..... | | | | 217 | | 35 | | 90.5 | | 1.98 | | 2.21 | |
| May..... | | | | 230 | | 35 | | 67.5 | | 1.47 | | 1.70 | |
| June..... | | | | 219 | | 16 | | 46.7 | | 1.02 | | 1.14 | |
| July..... | | | | 537 | | 18 | | 89.6 | | 1.96 | | 2.26 | |
| August..... | | | | 97 | | 12 | | 30.3 | | .662 | | .76 | |
| September..... | | | | 143 | | 10 | | 29.2 | | .638 | | .71 | |
| The year | | | | 876 | | 5.6 | | 66.4 | | 1.45 | | 19.69 | |

Fishing Creek near Bloomsburg, Pa.

Location.- Water-stage recorder, lat. 41°04'40", long. 76°26'00", at highway bridge 0.2 mile above mouth of Deerlick Run, 0.9 mile west of Orangeville, and 5.5 miles northeast of Bloomsburg, Columbia County.

Drainage area.- 274 square miles.

Records available.- June to September 1938.

Extremes.- Maximum discharge during period, 2,630 second-feet July 22 (gage height, 5.18 feet), from rating curve extended above 1,400 second-feet; minimum, 19 second-feet July 16, 19 (gage height, 1.78 feet); minimum daily discharge, 43 second-feet Sept. 12.

Maximum stage known, 11.86 feet, from floodmarks, Mar. 18, 1936 (discharge not determined).

Remarks.- Records good. Regulation from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|------|---------|------|------|------|-----------------|-----|-------------------|-------|------|-------|
| 1 | | | | | | | | | | 111 | 752 | 59 |
| 2 | | | | | | | | | | 140 | 564 | 56 |
| 3 | | | | | | | | | | 139 | 396 | 56 |
| 4 | | | | | | | | | 249 | 113 | 318 | 54 |
| 5 | | | | | | | | | 212 | 100 | 267 | 65 |
| 6 | | | | | | | | | 200 | 89 | 253 | 52 |
| 7 | | | | | | | | | 178 | 81 | 212 | 54 |
| 8 | | | | | | | | | 163 | 73 | 201 | 54 |
| 9 | | | | | | | | | 145 | 72 | 201 | 50 |
| 10 | | | | | | | | | 124 | 84 | 178 | 50 |
| 11 | | | | | | | | | 128 | 96 | 267 | 45 |
| 12 | | | | | | | | | 151 | 114 | 204 | 43 |
| 13 | | | | | | | | | 208 | 90 | 161 | 47 |
| 14 | | | | | | | | | 171 | 77 | 136 | 50 |
| 15 | | | | | | | | | 136 | 89 | 126 | 126 |
| 16 | | | | | | | | | 119 | 72 | 118 | 137 |
| 17 | | | | | | | | | 111 | 58 | 115 | 118 |
| 18 | | | | | | | | | 112 | 65 | 172 | 84 |
| 19 | | | | | | | | | 94 | 61 | 135 | 102 |
| 20 | | | | | | | | | 95 | 60 | 118 | 174 |
| 21 | | | | | | | | | 87 | 79 | 104 | 532 |
| 22 | | | | | | | | | 80 | 1,660 | 102 | 670 |
| 23 | | | | | | | | | 79 | 1,180 | 89 | 609 |
| 24 | | | | | | | | | 77 | 1,210 | 81 | 474 |
| 25 | | | | | | | | | 74 | 666 | 83 | 333 |
| 26 | | | | | | | | | 70 | 469 | 72 | 258 |
| 27 | | | | | | | | | 213 | 354 | 70 | 237 |
| 28 | | | | | | | | | 327 | 285 | 63 | 204 |
| 29 | | | | | | | | | 190 | 456 | 64 | 182 |
| 30 | | | | | | | | | 135 | 890 | 67 | 158 |
| 31 | | | | | | | | | | 435 | 59 | |
| Month | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | | | |
| October | | | | | | | | | | | | |
| November | | | | | | | | | | | | |
| December | | | | | | | | | | | | |
| January | | | | | | | | | | | | |
| February | | | | | | | | | | | | |
| March | | | | | | | | | | | | |
| April | | | | | | | | | | | | |
| May | | | | | | | | | | | | |
| June | 327 | | 70 | | 145 | | 0.529 | | 0.531 | | | |
| July | 1,660 | | 58 | | 305 | | 1.11 | | 1.28 | | | |
| August | 752 | | 59 | | 185 | | .675 | | .78 | | | |
| September | 670 | | 43 | | 171 | | .624 | | .70 | | | |
| The year | | | | | | | | | | | | |

West Branch of Susquehanna River at Bower, Pa.

Location.- Water-stage recorder, lat. 40°53'50", long. 78°40'40", at highway bridge at Bower, Clearfield County, 4.8 miles below Mahaffey and mouth of Chest Creek. Zero of gage is 1,206.39 feet above mean sea level (general adjustment of 1907).

Drainage area.- 315 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; October 1913 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 25 years, 563 second-feet.

Extremes.- Maximum discharge during year, 9,490 second-feet Dec. 18 (gage height, 12.66 feet); minimum, 24 second-feet Sept. 7 (gage height, 3.84 feet). 1913-38: Maximum discharge, 31,500 second-feet Mar. 18, 1936 (gage height, 19.74 feet, from floodmark in gage shelter), from rating curve extended on basis of slope-area determination; minimum, 16 second-feet Sept. 29, Oct. 1, 6, 13, 1930 (gage height, 3.66 feet).

Remarks.- Records good except those for periods of ice effect, Dec. 7-17, Jan. 17-24, which are poor and were determined from gage heights, weather records, and by comparison with records for stations downstream. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|------|---------|-------|-------|-------|-----------------|-------|-------------------|------|------|-------|
| 1 | 44 | 712 | 390 | 2,990 | 510 | 449 | 1,400 | 279 | 238 | 206 | 62 | 34 |
| 2 | 41 | 545 | 302 | 2,560 | 439 | 484 | 985 | 242 | 213 | 330 | 80 | 41 |
| 3 | 40 | 449 | 263 | 1,600 | 466 | 575 | 826 | 213 | 238 | 224 | 64 | 32 |
| 4 | 45 | 361 | 264 | 1,120 | 684 | 437 | 689 | 228 | 195 | 157 | 55 | 31 |
| 5 | 52 | 304 | 293 | 850 | 531 | 646 | 575 | 242 | 171 | 129 | 52 | 31 |
| 6 | 91 | 279 | 290 | 667 | 726 | 2,670 | 507 | 195 | 195 | 112 | 48 | 26 |
| 7 | 76 | 242 | 230 | 650 | 3,110 | 1,680 | 555 | 173 | 171 | 99 | 114 | 27 |
| 8 | 55 | 216 | 200 | 575 | 1,880 | 1,200 | 590 | 158 | 278 | 87 | 130 | 37 |
| 9 | 46 | 204 | 180 | 350 | 1,440 | 894 | 1,730 | 200 | 179 | 104 | 802 | 39 |
| 10 | 51 | 184 | 160 | 357 | 2,010 | 748 | 2,000 | 310 | 136 | 191 | 216 | 32 |
| 11 | 68 | 166 | 150 | 398 | 1,480 | 630 | 2,120 | 304 | 157 | 122 | 320 | 32 |
| 12 | 60 | 154 | 140 | 357 | 1,160 | 590 | 2,840 | 232 | 722 | 839 | 242 | 35 |
| 13 | 67 | 468 | 130 | 315 | 1,020 | 807 | 2,180 | 204 | 899 | 321 | 132 | 71 |
| 14 | 68 | 538 | 120 | 276 | 1,060 | 2,340 | 1,560 | 218 | 432 | 268 | 101 | 69 |
| 15 | 55 | 410 | 130 | 268 | 856 | 3,660 | 1,120 | 427 | 300 | 345 | 86 | 68 |
| 16 | 51 | 402 | 440 | 235 | 667 | 2,680 | 862 | 361 | 228 | 207 | 76 | 76 |
| 17 | 46 | 390 | 3,500 | 210 | 590 | 2,300 | 694 | 276 | 192 | 156 | 76 | 56 |
| 18 | 55 | 361 | 8,830 | 180 | 749 | 1,740 | 650 | 298 | 163 | 140 | 96 | 43 |
| 19 | 203 | 326 | 5,240 | 160 | 1,200 | 1,360 | 766 | 578 | 144 | 171 | 62 | 42 |
| 20 | 201 | 319 | 2,350 | 150 | 1,400 | 1,090 | 600 | 950 | 123 | 131 | 54 | 40 |
| 21 | 166 | 293 | 1,480 | 150 | 1,240 | 880 | 536 | 1,020 | 114 | 117 | 51 | 42 |
| 22 | 131 | 255 | 1,060 | 170 | 1,060 | 718 | 605 | 950 | 109 | 110 | 44 | 41 |
| 23 | 384 | 242 | 922 | 220 | 1,020 | 640 | 545 | 965 | 142 | 92 | 43 | 61 |
| 24 | 432 | 187 | 700 | 600 | 950 | 620 | 466 | 2,630 | 101 | 87 | 40 | 62 |
| 25 | 297 | 206 | 678 | 1,790 | 778 | 517 | 423 | 1,560 | 92 | 86 | 36 | 46 |
| 26 | 238 | 245 | 620 | 1,470 | 667 | 498 | 377 | 1,020 | 110 | 82 | 34 | 39 |
| 27 | 402 | 330 | 503 | 985 | 625 | 507 | 334 | 772 | 362 | 81 | 33 | 34 |
| 28 | 2,050 | 410 | 484 | 724 | 498 | 414 | 297 | 575 | 700 | 75 | 32 | 31 |
| 29 | 3,810 | 531 | 517 | 625 | 377 | 297 | 453 | 350 | 350 | 78 | 31 | 30 |
| 30 | 2,010 | 462 | 471 | 575 | 385 | 297 | 353 | 235 | 68 | 30 | 30 | 28 |
| 31 | 1,090 | 485 | 724 | | 998 | | 286 | | 60 | 29 | | |
| Month | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | | | |
| October | 3,810 | | 40 | | 401 | | 1.27 | | 1.46 | | | |
| November | 712 | | 154 | | 340 | | 1.08 | | 1.20 | | | |
| December | 8,830 | | 120 | | 1,017 | | 3.23 | | 3.72 | | | |
| January | 2,990 | | 150 | | 719 | | 2.28 | | 2.63 | | | |
| February | 3,110 | | 439 | | 1,029 | | 3.27 | | 3.40 | | | |
| March | 3,660 | | 377 | | 1,082 | | 3.43 | | 3.95 | | | |
| April | 2,840 | | 297 | | 914 | | 2.90 | | 3.24 | | | |
| May | 2,630 | | 158 | | 537 | | 1.70 | | 1.96 | | | |
| June | 899 | | 92 | | 273 | | .867 | | .97 | | | |
| July | 839 | | 60 | | 170 | | .540 | | .62 | | | |
| August | 802 | | 29 | | 106 | | .337 | | .39 | | | |
| September | 76 | | 26 | | 42.5 | | .155 | | .15 | | | |
| The year | 8,830 | | 26 | | 550 | | 1.75 | | 23.69 | | | |

West Branch of Susquehanna River at Renovo, Pa.

Location.- Water-stage recorder, lat. 41°18'50", long. 77°44'45", at highway bridge at Renovo, Clinton County. Zero of gage is 633.99 feet (revised) above mean sea level (preliminary levels of 1927).

Drainage area.- 2,975 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; July 1895 to December 1903, October 1905 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 26 years (1908-15, 1919-38), 4,783 second-feet.

Extremes.- Maximum discharge during year, 57,400 second-feet Dec. 18 (gage height, 12.83 feet); minimum, 167 second-feet Sept. 10 (gage height, -0.30 foot).

1895-1903, 1905-38: Maximum discharge, 236,000 second-feet Mar. 18, 1938 (gage height, 29.39 feet, from floodmark in gage shelter), from rating curve extended on basis of slope-area determination; minimum, 80 second-feet Dec. 6, 1908 (gage height, -1.10 feet).

Maximum flood known prior to 1895, 27.3 feet from floodmark, June 1, 1889 (discharge, about 211,000 second-feet).

Remarks.- Records good except those for periods of ice effect, Dec. 11-17, Jan. 17-24, which are fair and were determined from gage heights, weather records, and by comparison with records for stations at Bower and Williamsport.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|---------|--------|-----------------|-------------------|--------|--------|--------|-------|-------|-------|-------|
| 1 | 407 | 10,200 | 3,420 | 6,780 | 5,800 | 3,860 | 5,920 | 3,520 | 3,740 | 3,320 | 609 | 188 |
| 2 | 400 | 7,850 | 3,120 | 17,500 | 4,920 | 4,080 | 7,250 | 3,220 | 3,320 | 3,120 | 609 | 196 |
| 3 | 392 | 6,350 | 2,760 | 14,800 | 4,560 | 4,080 | 6,200 | 2,940 | 3,220 | 2,850 | 628 | 209 |
| 4 | 378 | 5,180 | 2,670 | 11,600 | 5,180 | 3,740 | 5,680 | 2,850 | 2,940 | 2,420 | 565 | 214 |
| 5 | 392 | 4,320 | 2,940 | 9,380 | 5,300 | 4,030 | 5,180 | 3,120 | 2,580 | 2,000 | 506 | 196 |
| 6 | 428 | 3,850 | 2,940 | 7,700 | 5,050 | 18,600 | 4,680 | 2,940 | 2,420 | 1,670 | 712 | 184 |
| 7 | 514 | 3,320 | 2,580 | 6,800 | 14,700 | 20,000 | 4,560 | 2,760 | 2,170 | 1,440 | 988 | 180 |
| 8 | 565 | 3,050 | 2,250 | 6,200 | 19,500 | 14,000 | 4,320 | 2,500 | 2,330 | 1,270 | 852 | 184 |
| 9 | 506 | 2,760 | 1,880 | 5,060 | 14,400 | 10,600 | 4,560 | 2,420 | 2,330 | 1,170 | 787 | 171 |
| 10 | 530 | 2,500 | 1,590 | 4,140 | 16,000 | 8,500 | 7,340 | 2,760 | 2,010 | 1,300 | 766 | 171 |
| 11 | 539 | 2,330 | 1,500 | 4,080 | 16,000 | 7,100 | 9,200 | 2,940 | 1,830 | 1,440 | 1,370 | 196 |
| 12 | 548 | 2,090 | 1,400 | 4,200 | 13,200 | 6,050 | 16,500 | 2,940 | 1,880 | 1,400 | 1,020 | 192 |
| 13 | 574 | 4,080 | 1,300 | 3,960 | 12,000 | 5,550 | 26,700 | 2,760 | 2,660 | 1,480 | 874 | 219 |
| 14 | 565 | 11,000 | 1,300 | 3,520 | 15,600 | 7,640 | 27,300 | 2,580 | 3,850 | 2,130 | 988 | 248 |
| 15 | 574 | 10,200 | 1,300 | 3,120 | 14,400 | 14,800 | 21,500 | 3,030 | 2,940 | 1,560 | 685 | 436 |
| 16 | 548 | 8,150 | 1,400 | 2,850 | 11,300 | 16,400 | 15,200 | 3,960 | 2,330 | 1,510 | 530 | 852 |
| 17 | 498 | 6,950 | 1,800 | 2,500 | 9,020 | 15,200 | 11,600 | 4,200 | 2,000 | 1,400 | 458 | 574 |
| 18 | 474 | 6,050 | 35,700 | 2,000 | 7,850 | 14,800 | 9,900 | 3,850 | 1,000 | 1,150 | 436 | 482 |
| 19 | 655 | 5,420 | 49,400 | 1,700 | 8,850 | 13,200 | 9,550 | 3,740 | 1,630 | 1,020 | 414 | 414 |
| 20 | 1,660 | 4,920 | 28,300 | 1,600 | 10,200 | 11,300 | 9,020 | 4,080 | 1,460 | 953 | 407 | 428 |
| 21 | 1,960 | 4,440 | 17,600 | 1,700 | 9,900 | 10,200 | 7,700 | 5,800 | 1,300 | 896 | 392 | 400 |
| 22 | 1,860 | 3,960 | 13,200 | 2,000 | 9,020 | 9,020 | 7,100 | 6,200 | 1,180 | 1,190 | 352 | 365 |
| 23 | 3,490 | 3,520 | 11,000 | 2,600 | 8,000 | 8,150 | 6,950 | 6,650 | 1,170 | 1,170 | 297 | 378 |
| 24 | 6,950 | 3,120 | 8,850 | 4,000 | 7,400 | 8,680 | 6,500 | 10,200 | 1,130 | 1,020 | 264 | 421 |
| 25 | 6,200 | 2,760 | 7,400 | 8,790 | 6,800 | 8,680 | 5,920 | 13,600 | 1,330 | 1,100 | 243 | 466 |
| 26 | 4,800 | 2,670 | 6,650 | 15,600 | 5,920 | 7,700 | 5,420 | 11,000 | 1,200 | 919 | 229 | 392 |
| 27 | 4,440 | 2,850 | 5,920 | 11,600 | 5,420 | 6,950 | 4,800 | 9,020 | 3,680 | 756 | 214 | 352 |
| 28 | 6,840 | 2,940 | 5,180 | 8,680 | 4,920 | 6,350 | 4,320 | 7,250 | 8,150 | 685 | 205 | 346 |
| 29 | 24,000 | 3,220 | 4,800 | 6,950 | 5,550 | 3,960 | 6,350 | 6,800 | 637 | 201 | 308 | 308 |
| 30 | 23,600 | 3,420 | 4,440 | 6,200 | 5,050 | 3,740 | 5,300 | 4,560 | 637 | 188 | 188 | 269 |
| 31 | 15,000 | | 4,320 | 6,350 | 4,800 | | 4,440 | | | | | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October | 24,000 | 378 | 3,558 | 1.20 | 1.38 | | | | | | | |
| November | 11,000 | 2,090 | 4,781 | 1.61 | 1.80 | | | | | | | |
| December | 49,400 | 1,300 | 7,707 | 2.59 | 2.99 | | | | | | | |
| January | 17,500 | 1,600 | 6,257 | 2.10 | 2.42 | | | | | | | |
| February | 19,500 | 4,560 | 9,686 | 3.26 | 3.40 | | | | | | | |
| March | 20,000 | 3,740 | 9,186 | 3.09 | 3.56 | | | | | | | |
| April | 27,300 | 3,740 | 8,952 | 3.01 | 3.36 | | | | | | | |
| May | 13,600 | 2,420 | 4,804 | 1.61 | 1.86 | | | | | | | |
| June | 8,150 | 1,130 | 2,665 | .896 | 1.00 | | | | | | | |
| July | 3,320 | 637 | 1,428 | .480 | .55 | | | | | | | |
| August | 1,370 | 188 | 548 | .184 | .21 | | | | | | | |
| September | 852 | 171 | 321 | .108 | .12 | | | | | | | |
| The year | 49,400 | 171 | 4,961 | 1.67 | 22.65 | | | | | | | |

West Branch of Susquehanna River at Williamsport, Pa.

Location.- Water-stage recorder, lat. 41°14'15", long. 76°59'55", at highway bridge at Williamsport, Lycoming County. Zero of gage is 494.74 feet (revised) above mean sea level (general adjustment of 1929).

Drainage area.- 5,682 square miles.

Records available.- March 1895 to December 1913, October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; March 1895 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 43 years, 8,900 second-feet.

Extremes.- Maximum discharge during year, 80,600 second-feet Dec. 19 (gage height, 18.10 feet), from rating curve extended above 45,000 second-feet; minimum, 455 second-feet Sept. 4.

1895-1938: Maximum discharge, 264,000 second-feet Mar. 18, 1938 (gage height, 33.57 feet, from floodmark in gage shelter), from rating curve extended on basis of slope-area determination; minimum, 231 second-feet Sept. 12, 1932 (gage height, -0.42 foot); minimum daily discharge, 250 second-feet June 30, July 10, 1912.

Maximum flood known prior to 1895, 32.4 feet June 1, 1889 (discharge, about 252,000 second-feet).

Remarks.- Records fair. Discharge for period of ice effect, Dec. 13-17, determined from gage heights, weather records, and by comparison with records for stations upstream. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|-----------|--------|--------|--------|--------|---------|--------|---------|--------|--------|-------|-----------------|-------|-------------------|--|
| 1 | 994 | 21,900 | 6,760 | 9,330 | 12,200 | 6,980 | 10,000 | 7,040 | 7,490 | 7,490 | 1,300 | 475 | | |
| 2 | 954 | 17,000 | 6,470 | 18,400 | 9,710 | 7,340 | 11,100 | 6,470 | 6,610 | 6,190 | 1,300 | 485 | | |
| 3 | 967 | 12,900 | 5,640 | 23,800 | 8,260 | 7,640 | 11,400 | 5,920 | 6,330 | 5,510 | 1,290 | 495 | | |
| 4 | 941 | 11,100 | 4,990 | 19,200 | 9,380 | 6,900 | 10,400 | 5,640 | 5,920 | 4,740 | 1,160 | 485 | | |
| 5 | 967 | 9,380 | 4,990 | 15,700 | 10,000 | 6,900 | 9,380 | 5,780 | 5,250 | 4,010 | 1,140 | 475 | | |
| 6 | 1,050 | 8,100 | 5,510 | 13,300 | 9,220 | 18,400 | 8,730 | 5,920 | 4,740 | 3,330 | 1,050 | 485 | | |
| 7 | 1,040 | 7,190 | 5,250 | 12,200 | 16,800 | 32,500 | 8,570 | 5,920 | 4,370 | 2,810 | 1,010 | 495 | | |
| 8 | 980 | 6,330 | 4,330 | 11,400 | 28,800 | 24,700 | 8,100 | 5,640 | 4,010 | 2,530 | 1,240 | 495 | | |
| 9 | 1,050 | 5,780 | 3,900 | 9,710 | 25,200 | 18,700 | 8,730 | 5,380 | 4,130 | 2,300 | 1,330 | 495 | | |
| 10 | 1,150 | 5,250 | 2,910 | 7,490 | 22,800 | 15,300 | 11,100 | 5,510 | 3,780 | 2,210 | 1,220 | 495 | | |
| 11 | 1,140 | 4,740 | 2,650 | 6,900 | 24,300 | 12,900 | 15,700 | 5,780 | 3,440 | 2,210 | 1,240 | 495 | | |
| 12 | 1,180 | 4,250 | 2,530 | 6,760 | 21,400 | 11,100 | 23,000 | 5,640 | 3,330 | 2,450 | 1,480 | 485 | | |
| 13 | 1,180 | 19,700 | 2,400 | 7,040 | 19,200 | 10,000 | 38,000 | 5,380 | 3,900 | 2,430 | 1,620 | 505 | | |
| 14 | 1,180 | 48,500 | 2,300 | 6,610 | 24,300 | 11,400 | 44,000 | 5,120 | 4,860 | 2,300 | 1,330 | 536 | | |
| 15 | 1,160 | 32,500 | 2,300 | 6,050 | 25,200 | 19,100 | 39,200 | 5,510 | 5,640 | 2,910 | 1,290 | 588 | | |
| 16 | 1,140 | 23,800 | 2,400 | 5,250 | 21,400 | 25,200 | 30,300 | 7,040 | 4,490 | 2,420 | 1,210 | 642 | | |
| 17 | 1,080 | 18,700 | 3,300 | 4,860 | 17,400 | 26,200 | 23,300 | 7,790 | 3,780 | 2,240 | 1,220 | 954 | | |
| 18 | 1,060 | 15,700 | 26,200 | 4,620 | 14,900 | 28,200 | 19,200 | 7,640 | 3,330 | 2,130 | 1,450 | 1,150 | | |
| 19 | 1,210 | 13,300 | 75,200 | 3,570 | 14,100 | 25,700 | 17,800 | 7,190 | 3,020 | 1,990 | 1,110 | 1,010 | | |
| 20 | 1,930 | 11,800 | 53,800 | 2,630 | 15,700 | 22,800 | 16,600 | 7,340 | 2,710 | 1,880 | 928 | 1,020 | | |
| 21 | 3,550 | 10,000 | 34,700 | 3,020 | 16,100 | 20,500 | 14,900 | 8,410 | 2,490 | 1,720 | 826 | 1,220 | | |
| 22 | 3,780 | 9,220 | 25,200 | 3,780 | 14,500 | 18,700 | 13,700 | 10,000 | 2,280 | 2,170 | 766 | 1,600 | | |
| 23 | 9,010 | 7,940 | 20,500 | 4,490 | 13,300 | 17,000 | 13,300 | 10,400 | 2,110 | 2,710 | 742 | 1,620 | | |
| 24 | 17,800 | 6,900 | 17,000 | 4,990 | 12,600 | 14,900 | 12,200 | 12,200 | 2,110 | 2,490 | 664 | 1,550 | | |
| 25 | 14,900 | 6,050 | 14,500 | 12,900 | 11,400 | 17,400 | 11,400 | 18,700 | 2,150 | 2,040 | 599 | 1,270 | | |
| 26 | 11,400 | 5,640 | 12,600 | 30,900 | 10,400 | 16,100 | 10,700 | 18,300 | 2,340 | 1,880 | 557 | 1,110 | | |
| 27 | 9,710 | 5,510 | 11,400 | 26,200 | 9,380 | 14,500 | 9,710 | 15,700 | 3,480 | 1,700 | 526 | 1,010 | | |
| 28 | 13,200 | 6,050 | 10,000 | 19,200 | 8,410 | 12,900 | 8,730 | 13,300 | 14,100 | 1,580 | 505 | 889 | | |
| 29 | 32,000 | 7,190 | 9,220 | 15,300 | | 11,800 | 7,940 | 11,800 | 14,100 | 1,330 | 505 | 814 | | |
| 30 | 45,200 | 7,190 | 8,410 | 13,700 | | 10,700 | 7,340 | 10,400 | 10,400 | 1,260 | 475 | 766 | | |
| 31 | 31,900 | | 7,940 | 12,200 | | 10,000 | | 8,730 | | 1,210 | 475 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October | | | | | 45,200 | | 941 | | 6,929 | | 1.22 | | 1.41 | |
| November | | | | | 48,500 | | 4,250 | | 12,320 | | 2.17 | | 2.42 | |
| December | | | | | 75,200 | | 2,300 | | 12,750 | | 2.24 | | 2.58 | |
| January | | | | | 30,900 | | 2,630 | | 11,020 | | 1.94 | | 2.24 | |
| February | | | | | 28,800 | | 8,260 | | 15,940 | | 2.81 | | 2.93 | |
| March | | | | | 32,500 | | 6,900 | | 16,210 | | 2.85 | | 3.29 | |
| April | | | | | 44,000 | | 7,340 | | 15,820 | | 2.78 | | 3.10 | |
| May | | | | | 18,700 | | 5,120 | | 8,438 | | 1.49 | | 1.72 | |
| June | | | | | 14,100 | | 2,110 | | 4,890 | | .861 | | .96 | |
| July | | | | | 7,490 | | 1,210 | | 2,715 | | .478 | | .55 | |
| August | | | | | 1,620 | | 475 | | 1,018 | | .179 | | .21 | |
| September | | | | | 1,620 | | 475 | | 804 | | .141 | | .16 | |
| The year | | | | | 75,200 | | 475 | | 9,020 | | 1.59 | | 21.52 | |

SUSQUEHANNA RIVER BASIN

Clearfield Creek at Dimeling, Pa.

Location.— Water-stage recorder, lat. 40°58'15", long. 78°24'25", at highway bridge at Dimeling, Clearfield County, 400 feet below mouth of Little Clearfield Creek. Zero of gage is 1,145.54 feet (revised) above mean sea level (general adjustment of 1912).

Drainage area.- 371 square miles.

Records available. - October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; October 1913 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 25 years, 581 second-feet.

Extremes.-- Maximum discharge during year, 9,730 second-foot Dec. 18 (gage height, 11.73 feet), from rating curve extended above 6,000 second-foot; minimum, 14 second-foot Sept. 5 (gage height, 3.13 feet); minimum daily discharge, 16 second-foot Sept. 5.

1913-38: Maximum discharge, 37,600 second-feet Mar. 18, 1936 (gage height, 18.49 feet, from floodmark in gage shelter), from rating curve extended above 6,000 second-feet; minimum, 6 second-feet Oct. 1, 9, 1926 (gage height, 3.15 feet); minimum daily discharge, 7.1 second-feet Oct. 1, 1925.

Remarks.—Records good except those for periods of recorder failure, Nov. 29 to Dec. 3 Jan. 7, 8, 25–29, Jan. 31 to Feb. 5, Feb. 7, 9–12, 15–18 (determined from partial gage record and by comparison with record for station on West Branch of Susquehanna River at Bower), and those for periods of ice effect, Dec. 7–17, Jan. 17–24 (determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas), which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet. 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|-----------|-------|-------|-------|-------|---------|-------|---------|-------|-------|------|-----------------|-------|-------------------|--|
| 1 | 50 | 1,000 | 280 | 2,010 | 550 | 390 | 1,110 | 277 | 294 | 202 | 57 | 48 | | |
| 2 | 49 | 779 | 250 | 2,520 | 450 | 480 | 888 | 250 | 267 | 222 | 62 | 38 | | |
| 3 | 48 | 640 | 230 | 1,600 | 460 | 507 | 775 | 225 | 294 | 196 | 62 | 33 | | |
| 4 | 44 | 522 | 236 | 1,140 | 500 | 404 | 672 | 225 | 280 | 153 | 82 | 20 | | |
| 5 | 54 | 443 | 287 | 908 | 420 | 510 | 587 | 263 | 219 | 122 | 164 | 18 | | |
| 6 | 76 | 399 | 267 | 733 | 477 | 1,850 | 522 | 234 | 202 | 107 | 82 | 28 | | |
| 7 | 89 | 358 | 240 | 680 | 2,700 | 1,410 | 517 | 205 | 213 | 96 | 153 | 33 | | |
| 8 | 77 | 319 | 220 | 600 | 1,880 | 1,040 | 517 | 183 | 231 | 86 | 107 | 32 | | |
| 9 | 59 | 301 | 200 | 440 | 1,300 | 833 | 824 | 193 | 216 | 100 | 235 | 31 | | |
| 10 | 63 | 267 | 190 | 370 | 1,600 | 722 | 1,380 | 256 | 170 | 100 | 254 | 30 | | |
| 11 | 71 | 241 | 180 | 434 | 1,300 | 618 | 1,680 | 263 | 165 | 100 | 165 | 35 | | |
| 12 | 78 | 228 | 170 | 412 | 1,100 | 592 | 2,850 | 216 | 510 | 620 | 276 | 33 | | |
| 13 | 84 | 653 | 160 | 382 | 1,000 | 728 | 2,530 | 193 | 726 | 309 | 164 | 34 | | |
| 14 | 77 | 1,060 | 150 | 335 | 1,110 | 1,730 | 1,820 | 199 | 421 | 183 | 103 | 48 | | |
| 15 | 70 | 689 | 150 | 323 | 850 | 3,330 | 1,340 | 407 | 305 | 218 | 82 | 70 | | |
| 16 | 64 | 587 | 250 | 305 | 700 | 2,750 | 1,000 | 438 | 244 | 155 | 72 | 61 | | |
| 17 | 56 | 536 | 2,000 | 270 | 600 | 2,420 | 827 | 335 | 210 | 120 | 71 | 62 | | |
| 18 | 61 | 527 | 8,520 | 250 | 560 | 1,920 | 728 | 298 | 185 | 107 | 64 | 54 | | |
| 19 | 161 | 488 | 5,450 | 210 | 920 | 1,460 | 797 | 442 | 162 | 128 | 56 | 46 | | |
| 20 | 227 | 498 | 2,590 | 200 | 1,300 | 1,180 | 689 | 875 | 141 | 130 | 49 | 45 | | |
| 21 | 226 | 493 | 1,650 | 210 | 1,140 | 972 | 582 | 927 | 132 | 103 | 45 | 47 | | |
| 22 | 186 | 416 | 1,220 | 250 | 1,000 | 815 | 551 | 940 | 118 | 91 | 42 | 45 | | |
| 23 | 400 | 323 | 1,000 | 350 | 934 | 716 | 503 | 842 | 111 | 93 | 40 | 50 | | |
| 24 | 697 | 260 | 803 | 650 | 920 | 672 | 438 | 1,820 | 101 | 88 | 40 | 54 | | |
| 25 | 478 | 256 | 700 | 1,700 | 761 | 577 | 395 | 1,370 | 98 | 78 | 38 | 52 | | |
| 26 | 364 | 312 | 656 | 1,300 | 618 | 536 | 354 | 940 | 123 | 71 | 35 | 46 | | |
| 27 | 498 | 305 | 536 | 1,000 | 592 | 587 | 319 | 755 | 604 | 64 | 33 | 40 | | |
| 28 | 2,250 | 335 | 484 | 800 | 492 | 479 | 294 | 613 | 750 | 86 | 32 | 35 | | |
| 29 | 5,500 | 380 | 475 | 640 | | 421 | 277 | 507 | 394 | 83 | 31 | 34 | | |
| 30 | 2,960 | 320 | 443 | 706 | | 412 | 287 | 407 | 247 | 67 | 32 | 48 | | |
| 31 | 1,540 | | 456 | 680 | | 630 | | 342 | | 55 | 50 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October | | | | | 5,500 | | 44 | | 537 | | 1.45 | | 1.67 | |
| November | | | | | 1,060 | | 241 | | 464 | | 1.25 | | 1.40 | |
| December | | | | | 8,520 | | 150 | | 982 | | 2.65 | | 3.06 | |
| January | | | | | 2,520 | | 200 | | 722 | | 1.95 | | 2.25 | |
| February | | | | | 2,700 | | 420 | | 937 | | 2.53 | | 2.64 | |
| March | | | | | 3,330 | | 390 | | 1,022 | | 2.76 | | 3.18 | |
| April | | | | | 2,850 | | 277 | | 868 | | 2.34 | | 2.61 | |
| May | | | | | 1,820 | | 183 | | 498 | | 1.34 | | 1.54 | |
| June | | | | | 750 | | 98 | | 271 | | .730 | | | |
| July | | | | | 620 | | 55 | | 140 | | .377 | | .81 | |
| August | | | | | 276 | | 31 | | 89.6 | | .242 | | .43 | |
| September | | | | | 70 | | 16 | | 41.6 | | .112 | | .28 | |
| The year | | | | | 8,520 | | 16 | | 546 | | 1.47 | | 19.99 | |

Sinnemahoning Creek at Sinnemahoning, Pa.

Location.— Water-stage recorder, lat. 41°18'45", long. 78°05'30", a quarter of a mile above mouth of Grove Run and 3,500 feet above Pennsylvania Railroad bridge at Sinnemahoning, Cameron County. Zero of gage is 768.99 feet above mean sea level (preliminary levels of 1930).

Drainage area.- 699 square miles.

Records available.— July to September 1938.

Extremes.-- Maximum discharge during period, 760 second-feet Sept. 15 (gage height, 2.86 feet); minimum, 19 second-feet Sept. 7 (gage height, 1.37 feet); minimum daily discharge, 21 second-feet Sept. 6, 7.

Remarks. - Records good except those for period of recorder failure, July 30 to Aug. 6, which are fair and were determined from range in stage shown by recorder graph and by comparison with record for station at Sterling Run. Slight regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|--------------------|------|------|------|------|---------|---------|------|-----------------|-------------------|------|------|-------|
| 1 | | | | | | | | | | | 100 | 20 |
| 2 | | | | | | | | | | | 110 | 20 |
| 3 | | | | | | | | | | | 94 | 23 |
| 4 | | | | | | | | | | | 86 | 23 |
| 5 | | | | | | | | | | | 300 | 23 |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | 230 | 21 |
| 8 | | | | | | | | | | | 242 | 21 |
| 9 | | | | | | | | | | | 202 | 20 |
| 10 | | | | | | | | | | | 158 | 23 |
| | | | | | | | | | | | 158 | 23 |
| 11 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | 134 | 23 |
| 13 | | | | | | | | | | | 161 | 23 |
| 14 | | | | | | | | | | | 120 | 30 |
| 15 | | | | | | | | | | | 94 | 76 |
| 16 | | | | | | | | | | | 77 | 410 |
| 17 | | | | | | | | | | | | |
| 18 | | | | | | | | | | | 70 | 208 |
| 19 | | | | | | | | | | | 63 | 108 |
| 20 | | | | | | | | | | | 69 | 79 |
| | | | | | | | | | | | 77 | 70 |
| 21 | | | | | | | | | | 162 | 68 | 77 |
| 22 | | | | | | | | | | | | |
| 23 | | | | | | | | | | 138 | 52 | 89 |
| 24 | | | | | | | | | | 177 | 45 | 75 |
| 25 | | | | | | | | | | 175 | 41 | 86 |
| | | | | | | | | | | 195 | 40 | 158 |
| 26 | | | | | | | | | | 276 | 36 | 108 |
| 27 | | | | | | | | | | | | |
| 28 | | | | | | | | | | 166 | 33 | 76 |
| 29 | | | | | | | | | | 138 | 32 | 61 |
| 30 | | | | | | | | | | 116 | 29 | 52 |
| 31 | | | | | | | | | | 123 | 28 | 49 |
| | | | | | | | | | | 150 | 26 | 45 |
| | | | | | | | | | | 120 | 25 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | |
| October..... | | | | | | | | | | | | |
| November..... | | | | | | | | | | | | |
| December..... | | | | | | | | | | | | |
| January..... | | | | | | | | | | | | |
| February..... | | | | | | | | | | | | |
| March..... | | | | | | | | | | | | |
| April..... | | | | | | | | | | | | |
| May..... | | | | | | | | | | | | |
| June..... | | | | | | | | | | | | |
| July... 20-31..... | | | | | 276 | 116 | 161 | 0.230 | 0.10 | | | |
| August..... | | | | | 300 | 25 | 96.8 | .138 | .16 | | | |
| September..... | | | | | 410 | 21 | 71.6 | .102 | .11 | | | |
| The year..... | | | | | | | | | | | | |

SUSQUEHANNA RIVER BASIN

Driftwood Branch of Sinnemahoning Creek at Sterling Run, Pa.

Location.- Staff gage, lat. 41°24'30", long. 78°11'25", 800 feet above highway bridge at Sterling Run, Cameron County, and 1,100 feet above mouth of Sterling Run.
Zero of gage is 894.60 feet above mean sea level (Pennsylvania Railroad benchmark).
Drainage area.- 281 square miles.

Records available.- November 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; September 1913 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 19 years (1919-38), 448 second-feet.

Extremes. - Maximum discharge observed during year, 9,490 second-feet Dec. 18 (gage height, 7.25 feet); from rating curve extended on basis of slope-area determination; minimum, 5.5 second-feet Sept. 6, 7, 9, 10 (gage height, 1.15 feet).

1913-38: Maximum discharge, 28,400 second-feet Mar. 17, 1936 (gage height, 12.0 feet, from graph based on gage readings), from rating curve extended on basis of slope-area determination; minimum, 0.4 second-foot Sept. 7, 12-14, 1930

Remarks.- Records fair except those for periods of ice effect, Dec. 2-17, Jan. 10-24, which are poor and were determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Slight regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|-------|-------|-------|-------|-------|-------|-----|-------|------|------|-------|
| 1 | 23 | 514 | 312 | 1,030 | 425 | 293 | 470 | 262 | 222 | 297 | 44 | 12 |
| 2 | 23 | 425 | 280 | 1,340 | 346 | 293 | 440 | 241 | 206 | 330 | 50 | 12 |
| 3 | 23 | 371 | 250 | 1,040 | 371 | 293 | 412 | 222 | 199 | 199 | 40 | 8.0 |
| 4 | 24 | 293 | 230 | 762 | 463 | 249 | 385 | 222 | 162 | 159 | 31 | 7.0 |
| 5 | 28 | 275 | 260 | 684 | 454 | 702 | 360 | 214 | 146 | 134 | 93 | 6.4 |
| 6 | 52 | 224 | 230 | 514 | 694 | 5,510 | 316 | 196 | 134 | 102 | 74 | 5.8 |
| 7 | 49 | 201 | 190 | 425 | 3,980 | 2,320 | 297 | 165 | 132 | 92 | 80 | 5.8 |
| 8 | 32 | 159 | 125 | 249 | 2,390 | 875 | 288 | 149 | 199 | 83 | 63 | 5.8 |
| 9 | 28 | 169 | 105 | 179 | 1,540 | 710 | 360 | 171 | 129 | 87 | 76 | 5.8 |
| 10 | 30 | 162 | 95 | 200 | 1,850 | 600 | 440 | 174 | 123 | 92 | 54 | 5.5 |
| 11 | 33 | 147 | 90 | 180 | 1,470 | 500 | 687 | 174 | 159 | 97 | 48 | 10 |
| 12 | 30 | 136 | 86 | 170 | 1,210 | 412 | 2,080 | 146 | 158 | 97 | 48 | 15 |
| 13 | 34 | 798 | 84 | 160 | 2,180 | 440 | 3,590 | 132 | 282 | 74 | 36 | 23 |
| 14 | 33 | 1,210 | 84 | 150 | 3,370 | 660 | 4,480 | 206 | 262 | 61 | 27 | 48 |
| 16 | 30 | 1,040 | 90 | 140 | 2,020 | 970 | 2,760 | 206 | 206 | 132 | 22 | 296 |
| 16 | 26 | 723 | 150 | 130 | 1,270 | 790 | 1,180 | 229 | 171 | 85 | 22 | 74 |
| 17 | 23 | 578 | 350 | 120 | 940 | 1,120 | 1,070 | 192 | 146 | 65 | 22 | 44 |
| 18 | 23 | 483 | 7,400 | 110 | 894 | 1,180 | 1,020 | 178 | 107 | 54 | 30 | 40 |
| 19 | 181 | 425 | 5,400 | 100 | 1,040 | 1,020 | 1,430 | 178 | 102 | 46 | 24 | 43 |
| 20 | 173 | 371 | 3,580 | 100 | 940 | 875 | 1,180 | 214 | 90 | 32 | 23 | 42 |
| 21 | 136 | 346 | 1,270 | 100 | 847 | 750 | 970 | 254 | 78 | 43 | 21 | 43 |
| 22 | 144 | 303 | 847 | 110 | 684 | 710 | 875 | 326 | 67 | 78 | 20 | 37 |
| 23 | 489 | 258 | 762 | 130 | 612 | 750 | 790 | 285 | 74 | 74 | 19 | 56 |
| 24 | 614 | 241 | 648 | 180 | 483 | 1,070 | 710 | 658 | 67 | 87 | 19 | 69 |
| 25 | 371 | 228 | 514 | 990 | 398 | 970 | 635 | 790 | 78 | 83 | 18 | 42 |
| 26 | 293 | 241 | 425 | 940 | 371 | 922 | 500 | 750 | 80 | 56 | 17 | 31 |
| 27 | 346 | 245 | 346 | 723 | 371 | 750 | 440 | 565 | 1,910 | 50 | 16 | 27 |
| 28 | 1,030 | 254 | 346 | 578 | 312 | 600 | 385 | 440 | 1,200 | 43 | 12 | 24 |
| 29 | 2,490 | 346 | 298 | 371 | | 532 | 360 | 532 | 600 | 54 | 12 | 21 |
| 30 | 1,150 | 321 | 275 | 483 | | 470 | 312 | 360 | 385 | 61 | 9.5 | 20 |
| 31 | 723 | | 258 | 514 | | 440 | | 271 | | 50 | 9.5 | |

| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|---------|---------|-------|-----------------|-------------------|
| October..... | 2,490 | 23 | 280 | 0.996 | 1.15 |
| November..... | 1,210 | 136 | 383 | 1.36 | 1.52 |
| December..... | 7,400 | 84 | 819 | 2.91 | 3.36 |
| January..... | 1,340 | 100 | 416 | 1.48 | 1.71 |
| February..... | 3,980 | 312 | 1,141 | 4.06 | 4.23 |
| March..... | 5,510 | 249 | 896 | 3.19 | 3.68 |
| April..... | 4,480 | 288 | 974 | 3.47 | 3.87 |
| May..... | 790 | 132 | 294 | 1.05 | 1.21 |
| June..... | 1,910 | 67 | 262 | .932 | 1.04 |
| July..... | 330 | 32 | 96.7 | .344 | .40 |
| August..... | 93 | 9.5 | 34.8 | .124 | .14 |
| September..... | 296 | 5.5 | 36.0 | .128 | .14 |
| The year..... | 7,400 | 5.5 | 464 | 1.65 | 22.45 |

SUSQUEHANNA RIVER BASIN

North Bald Eagle Creek at Beech Creek Station, Pa.

Location.- Water-stage recorder, lat. 41°03'55", long. 77°34'00", at highway bridge just below mouth of Beech Creek, at Beech Creek Station, Clinton County. Zero of gage is 571.79 feet above mean sea level (Pennsylvania State highway benchmark).
Drainage area.- 559 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; June 1910 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 28 years, 795 second-feet.

Average discharge. 28 years, 795 second-feet.
Extremes. - Maximum discharge during year, 7,560 second-feet Dec. 19 (gage height, 7.34 feet); minimum, 84 second-feet Sept. 27, 30 (gage height, 1.43 feet); minimum daily discharge, 119 second-feet Sept. 30.

1910-38: Maximum discharge, 22,300 second-feet Mar. 18, 1936 (gage height, 14.42 feet), from rating curve extended above 10,000 second-feet; minimum, 15 second-feet Jan. 9, 1931 (gage height, 1.12 feet); minimum daily discharge (estimated). 25 second-feet Jan. 22, 23, 1931.

Remarks.- Records fair. Discharge for periods of ice effect, Dec. 3-18, Jan. 19-22, determined from gage height, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Some regulation at low stages from operation of gristmills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|-------|-------|-------|-------|---------|---------|-------|-----------------|------|-------------------|------|-------|
| 1 | 184 | 1,490 | 552 | 2,280 | 832 | 684 | 1,050 | 629 | 609 | 498 | 257 | 160 |
| 2 | 170 | 1,200 | 498 | 2,160 | 749 | 763 | 910 | 596 | 590 | 521 | 244 | 158 |
| 3 | 184 | 1,060 | 470 | 1,640 | 749 | 870 | 870 | 583 | 642 | 447 | 215 | 135 |
| 4 | 191 | 926 | 460 | 1,390 | 793 | 705 | 832 | 782 | 558 | 394 | 204 | 143 |
| 5 | 196 | 832 | 480 | 1,200 | 698 | 902 | 786 | 1,060 | 509 | 368 | 200 | 143 |
| 6 | 217 | 763 | 450 | 1,050 | 797 | 1,960 | 756 | 1,160 | 492 | 334 | 204 | 146 |
| 7 | 207 | 698 | 420 | 1,240 | 2,330 | 763 | 982 | 452 | 320 | 244 | 139 | 139 |
| 8 | 184 | 649 | 370 | 1,090 | 1,540 | 1,440 | 793 | 886 | 458 | 301 | 227 | 151 |
| 9 | 176 | 623 | 350 | 862 | 1,490 | 1,240 | 1,160 | 855 | 420 | 301 | 204 | 148 |
| 10 | 211 | 577 | 330 | 808 | 1,860 | 1,160 | 1,670 | 855 | 399 | 296 | 210 | 132 |
| 11 | 227 | 558 | 320 | 808 | 1,540 | 1,010 | 2,320 | 793 | 394 | 296 | 252 | 124 |
| 12 | 204 | 533 | 310 | 763 | 1,390 | 958 | 3,670 | 712 | 425 | 587 | 219 | 149 |
| 13 | 182 | 2,990 | 300 | 741 | 1,390 | 1,010 | 3,800 | 677 | 504 | 348 | 196 | 150 |
| 14 | 187 | 2,670 | 300 | 684 | 1,490 | 1,840 | 3,240 | 663 | 441 | 353 | 177 | 152 |
| 15 | 176 | 1,860 | 300 | 636 | 1,240 | 3,160 | 2,410 | 808 | 399 | 315 | 188 | 168 |
| 16 | 156 | 1,540 | 320 | 603 | 1,100 | 2,810 | 1,920 | 808 | 378 | 288 | 177 | 151 |
| 17 | 166 | 1,290 | 600 | 616 | 1,030 | 2,880 | 1,540 | 756 | 368 | 257 | 174 | 140 |
| 18 | 184 | 1,110 | 5,500 | 527 | 1,020 | 2,540 | 1,390 | 726 | 363 | 274 | 233 | 130 |
| 19 | 306 | 990 | 5,030 | 480 | 1,050 | 2,100 | 1,390 | 734 | 334 | 315 | 200 | 146 |
| 20 | 609 | 918 | 2,880 | 460 | 1,200 | 1,860 | 1,160 | 816 | 344 | 274 | 174 | 155 |
| 21 | 604 | 839 | 2,100 | 450 | 1,050 | 1,590 | 1,030 | 801 | 324 | 274 | 160 | 164 |
| 22 | 452 | 763 | 1,700 | 470 | 958 | 1,440 | 982 | 793 | 306 | 261 | 170 | 155 |
| 23 | 2,620 | 698 | 1,490 | 515 | 958 | 1,290 | 894 | 786 | 306 | 265 | 168 | 152 |
| 24 | 1,980 | 642 | 1,200 | 552 | 982 | 1,290 | 824 | 1,200 | 315 | 265 | 158 | 140 |
| 25 | 1,340 | 609 | 1,110 | 4,250 | 934 | 1,160 | 786 | 1,110 | 367 | 270 | 154 | 140 |
| 26 | 1,080 | 609 | 1,050 | 2,910 | 855 | 1,100 | 749 | 1,020 | 373 | 257 | 156 | 140 |
| 27 | 1,160 | 590 | 910 | 1,920 | 847 | 1,050 | 719 | 958 | 831 | 306 | 145 | 129 |
| 28 | 2,670 | 623 | 862 | 1,540 | 756 | 942 | 684 | 862 | 982 | 240 | 138 | 126 |
| 29 | 4,580 | 649 | 832 | 1,240 | | 878 | 677 | 896 | 663 | 236 | 156 | 126 |
| 30 | 2,920 | 590 | 771 | 1,090 | | 839 | 656 | 741 | 498 | 219 | 143 | 119 |
| 31 | 1,920 | | 824 | 1,020 | | 886 | | 670 | | 215 | 146 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October..... | | | | | 4,580 | 156 | 816 | 1.46 | | 1.68 | | |
| November..... | | | | | 2,990 | 533 | 996 | 1.78 | | 1.99 | | |
| December..... | | | | | 5,500 | 300 | 1,067 | 1.91 | | 2.20 | | |
| January..... | | | | | 4,250 | 450 | 1,161 | 2.08 | | 2.40 | | |
| February..... | | | | | 2,330 | 698 | 1,130 | 2.02 | | 2.10 | | |
| March..... | | | | | 3,160 | 684 | 1,419 | 2.54 | | 2.93 | | |
| April..... | | | | | 3,900 | 656 | 1,344 | 2.40 | | 2.68 | | |
| May..... | | | | | 1,200 | 583 | 829 | 1.48 | | 1.71 | | |
| June..... | | | | | 982 | 306 | 468 | .837 | | .93 | | |
| July..... | | | | | 587 | 215 | 319 | .571 | | .66 | | |
| August..... | | | | | 257 | 138 | 190 | .340 | | .39 | | |
| September..... | | | | | 168 | 119 | 144 | .258 | | .29 | | |
| The year..... | | | | | 5,500 | 119 | 822 | 1.47 | | 19.96 | | |

Pine Creek at Cedar Run, Pa.

Location.- Water-stage recorder, lat. 41°31'20", long. 77°26'55", at highway bridge at Cedar Run, Lycoming County, about 2,000 feet below mouth of Cedar Run. Zero of gage is 781.96 feet above mean sea level (New York Central Railroad benchmark).
Drainage area.- 604 square miles.

Drainage area.- 604 square miles.

Records available. - October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; July 1918 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 19 years (1919-38), 757 second-feet.

Extremes.— Maximum discharge during year, 15,100 second-foot Nov. 13 (gage height, 7.96 feet), from rating curve extended on basis of slope-area determination; minimum, 37 second-foot Sept. 6 (gage height, 1.00 foot).

1918-38: Maximum discharge, 30,900 second-feet Mar. 18, 1936 (gage height, 11.39 feet), from rating curve extended on basis of slope-area determination; minimum, 5.1 second-feet Sept. 6, 1929 (gage height, 0.86 foot).

Remarks: - Records good except those for periods of ice effect, Dec. 2-18, Jan. 10-25, Feb. 27 to Mar. 5, which are poor and were determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|-------|-------|-------|-------|---------|-------|---------|-------|-------|-------|-----------------|-------|-------------------|--|
| 1 | 66 | 1,690 | 731 | 706 | 945 | 620 | 1,030 | 709 | 619 | 1,140 | 141 | 43 | | |
| 2 | 66 | 1,370 | 660 | 800 | 924 | 640 | 944 | 628 | 558 | 986 | 141 | 45 | | |
| 3 | 66 | 1,180 | 620 | 677 | 861 | 620 | 903 | 575 | 610 | 756 | 120 | 45 | | |
| 4 | 66 | 945 | 580 | 623 | 1,150 | 600 | 852 | 575 | 492 | 610 | 103 | 43 | | |
| 5 | 66 | 810 | 560 | 606 | 872 | 1,000 | 784 | 525 | 429 | 500 | 93 | 47 | | |
| 6 | 72 | 731 | 560 | 553 | 925 | 5,240 | 727 | 730 | 429 | 421 | 90 | 37 | | |
| 7 | 90 | 650 | 500 | 579 | 2,580 | 2,580 | 691 | 567 | 391 | 354 | 83 | 39 | | |
| 8 | 87 | 597 | 450 | 579 | 2,200 | 1,760 | 672 | 492 | 476 | 505 | 78 | 41 | | |
| 9 | 83 | 588 | 400 | 511 | 1,930 | 1,320 | 709 | 558 | 369 | 285 | 75 | 43 | | |
| 10 | 90 | 536 | 360 | 470 | 2,170 | 1,080 | 784 | 619 | 306 | 298 | 75 | 47 | | |
| 11 | 98 | 469 | 320 | 450 | 1,720 | 923 | 947 | 558 | 278 | 253 | 80 | 43 | | |
| 12 | 102 | 438 | 290 | 440 | 1,540 | 813 | 2,600 | 492 | 308 | 253 | 90 | 41 | | |
| 13 | 102 | 7,280 | 270 | 430 | 3,000 | 852 | 3,780 | 460 | 573 | 228 | 83 | 49 | | |
| 14 | 102 | 8,180 | 260 | 420 | 3,890 | 1,340 | 4,000 | 437 | 542 | 194 | 73 | 64 | | |
| 15 | 90 | 4,540 | 260 | 410 | 3,050 | 1,170 | 3,360 | 732 | 437 | 200 | 65 | 228 | | |
| 16 | 83 | 2,960 | 280 | 400 | 2,270 | 1,340 | 2,580 | 903 | 383 | 189 | 62 | 156 | | |
| 17 | 77 | 2,220 | 600 | 390 | 1,760 | 1,840 | 2,070 | 804 | 346 | 158 | 60 | 96 | | |
| 18 | 72 | 1,780 | 3,500 | 370 | 1,500 | 2,180 | 1,940 | 774 | 312 | 154 | 62 | 86 | | |
| 19 | 92 | 1,420 | 4,000 | 350 | 1,610 | 2,100 | 1,990 | 755 | 271 | 163 | 60 | 83 | | |
| 20 | 235 | 1,220 | 2,960 | 340 | 1,510 | 2,150 | 1,650 | 774 | 247 | 150 | 57 | 86 | | |
| 21 | 268 | 1,060 | 2,250 | 340 | 1,190 | 2,010 | 1,480 | 823 | 222 | 584 | 53 | 103 | | |
| 22 | 199 | 1,000 | 1,800 | 350 | 1,080 | 1,900 | 1,680 | 804 | 200 | 843 | 53 | 144 | | |
| 23 | 1,560 | 780 | 1,520 | 390 | 989 | 1,870 | 1,550 | 755 | 189 | 384 | 55 | 171 | | |
| 24 | 1,730 | 686 | 1,160 | 500 | 967 | 2,490 | 1,460 | 1,310 | 205 | 253 | 51 | 180 | | |
| 25 | 1,060 | 641 | 1,020 | 4,300 | 840 | 2,170 | 1,380 | 1,320 | 194 | 200 | 47 | 118 | | |
| 26 | 790 | 606 | 914 | 3,060 | 713 | 2,010 | 1,230 | 1,230 | 416 | 158 | 45 | 90 | | |
| 27 | 1,030 | 632 | 760 | 2,130 | 680 | 1,740 | 1,070 | 1,150 | 4,770 | 145 | 45 | 78 | | |
| 28 | 2,340 | 725 | 695 | 1,680 | 640 | 1,460 | 954 | 1,020 | 4,020 | 133 | 43 | 75 | | |
| 29 | 5,720 | 967 | 632 | 1,380 | | 1,270 | 862 | 986 | 2,410 | 141 | 45 | 70 | | |
| 30 | 3,730 | 790 | 579 | 1,190 | | 1,130 | 794 | 852 | 1,590 | 137 | 43 | 65 | | |
| 31 | 2,360 | | 544 | 1,400 | | 1,040 | | 718 | | 123 | 43 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 5,720 | | 66 | | 728 | | 1.21 | | 1.40 | |
| November..... | | | | | 8,180 | | 438 | | 1,583 | | 2.62 | | 2.92 | |
| December..... | | | | | 4,000 | | 260 | | 969 | | 1.60 | | 1.84 | |
| January..... | | | | | 4,300 | | 340 | | 865 | | 1.43 | | 1.65 | |
| February..... | | | | | 3,890 | | 640 | | 1,554 | | 2.57 | | 2.68 | |
| March..... | | | | | 5,240 | | 600 | | 1,589 | | 2.63 | | 3.03 | |
| April..... | | | | | 4,000 | | 672 | | 1,516 | | 2.51 | | 2.80 | |
| May..... | | | | | 1,320 | | 437 | | 762 | | 1.26 | | 1.45 | |
| June..... | | | | | 4,770 | | 189 | | 753 | | 1.25 | | 1.40 | |
| July..... | | | | | 1,140 | | 123 | | 345 | | .571 | | .66 | |
| August..... | | | | | 141 | | 43 | | 71.4 | | .118 | | .14 | |
| September..... | | | | | 228 | | 37 | | 81.9 | | .136 | | .15 | |
| The year..... | | | | | 8,180 | | 37 | | 895 | | 1.48 | | 20.12 | |

Lycoming Creek near Trout Run. Pa.

Location.- Chain gage, lat. $41^{\circ}25'05''$, long. $77^{\circ}02'00''$, at highway bridge half a mile below mouth of Grays Run and $2 \frac{3}{4}$ miles above Trout Run, Lycoming County. Zero of gage is 893.4 feet above mean sea level (Pennsylvania Railroad benchmark).

Drainage area.- 173 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; December 1913 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 21 years (1914-16, 1919-38), 260 second-feet.

Extremes.-- Maximum discharge observed during year, 10,900 second-feet Nov. 13 (gage height, 13.74 feet), from rating curve extended on basis of slope-area determination; minimum 6.8 second-feet Sept. 13, 14 (gage height, 1.26 feet).

1913-38: Maximum discharge, 17,000 second-foot Mar. 18, 1936 (gage height, 17.34 feet, from floodmarks), from rating curve extended on basis of slope-area determination; minimum, 3.2 second-foot Sept. 27, 1936; minimum daily discharge, 4.0 second-foot Sept. 19-24, 27, 28, 1936.

Remarks.—Records fair. Discharge for periods of ice effect, Dec. 5-17, Jan. 10-23, Feb. 28 to Mar. 5, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|-------|-------|-------|------|---------|------|---------|-----|------|------|-----------------|-------|-------------------|--|
| 1 | 27 | 423 | 296 | 315 | 185 | 110 | 395 | 174 | 152 | 83 | 40 | 14 | | |
| 2 | 26 | 364 | 260 | 296 | 174 | 120 | 334 | 166 | 144 | 85 | 34 | 13 | | |
| 3 | 24 | 307 | 242 | 260 | 206 | 130 | 315 | 150 | 142 | 78 | 33 | 12 | | |
| 4 | 24 | 272 | 226 | 200 | 242 | 120 | 296 | 140 | 132 | 75 | 36 | 12 | | |
| 5 | 26 | 239 | 210 | 185 | 209 | 160 | 260 | 137 | 118 | 62 | 33 | 12 | | |
| 6 | 28 | 224 | 200 | 174 | 174 | 518 | 260 | 127 | 112 | 53 | 32 | 11 | | |
| 7 | 31 | 196 | 190 | 296 | 438 | 399 | 260 | 118 | 95 | 45 | 26 | 11 | | |
| 8 | 28 | 185 | 180 | 278 | 374 | 260 | 278 | 105 | 83 | 45 | 23 | 10 | | |
| 9 | 27 | 185 | 160 | 162 | 354 | 209 | 334 | 130 | 75 | 43 | 19 | 9. | | |
| 10 | 30 | 168 | 140 | 180 | 416 | 174 | 506 | 157 | 65 | 39 | 18 | 8. | | |
| 11 | 28 | 150 | 120 | 170 | 395 | 157 | 935 | 163 | 68 | 41 | 24 | 7. | | |
| 12 | 31 | 142 | 100 | 160 | 374 | 155 | 880 | 132 | 80 | 38 | 24 | 7. | | |
| 13 | 36 | 4,940 | 90 | 150 | 674 | 203 | 827 | 118 | 118 | 33 | 19 | 6. | | |
| 14 | 41 | 2,480 | 82 | 140 | 625 | 554 | 775 | 109 | 101 | 33 | 19 | 9. | | |
| 15 | 36 | 1,270 | 80 | 130 | 577 | 354 | 724 | 142 | 83 | 37 | 17 | 28 | | |
| 16 | 32 | 880 | 82 | 120 | 438 | 374 | 601 | 140 | 78 | 31 | 16 | 18 | | |
| 17 | 30 | 674 | 400 | 110 | 334 | 650 | 530 | 137 | 71 | 29 | 13 | 15 | | |
| 18 | 26 | 530 | 1,780 | 100 | 296 | 674 | 530 | 118 | 64 | 36 | 25 | 22 | | |
| 19 | 35 | 438 | 1,100 | 93 | 296 | 674 | 463 | 109 | 59 | 38 | 29 | 26 | | |
| 20 | 137 | 395 | 724 | 90 | 315 | 674 | 438 | 209 | 48 | 38 | 20 | 31 | | |
| 21 | 144 | 334 | 601 | 90 | 242 | 674 | 395 | 242 | 47 | 36 | 19 | 80 | | |
| 22 | 94 | 278 | 506 | 92 | 209 | 674 | 374 | 226 | 43 | 33 | 17 | 160 | | |
| 23 | 931 | 242 | 395 | 98 | 182 | 674 | 354 | 197 | 43 | 38 | 24 | 242 | | |
| 24 | 764 | 209 | 315 | 129 | 174 | 674 | 354 | 416 | 45 | 49 | 21 | 197 | | |
| 25 | 444 | 150 | 296 | 577 | 132 | 625 | 315 | 315 | 43 | 43 | 19 | 116 | | |
| 26 | 326 | 226 | 260 | 577 | 123 | 554 | 296 | 260 | 85 | 38 | 17 | 59 | | |
| 27 | 444 | 200 | 209 | 483 | 118 | 438 | 278 | 242 | 242 | 29 | 17 | 45 | | |
| 28 | 485 | 296 | 200 | 354 | 110 | 416 | 242 | 226 | 152 | 25 | 17 | 40 | | |
| 29 | 1,210 | 577 | 206 | 260 | | 374 | 209 | 209 | 109 | 29 | 17 | 37 | | |
| 30 | 731 | 374 | 197 | 209 | | 334 | 197 | 174 | 82 | 40 | 16 | 31 | | |
| 31 | 528 | | 185 | 200 | | 354 | | 163 | | 37 | 14 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 1,210 | | 24 | | 219 | | 1.27 | | 1.46 | |
| November..... | | | | | 4,940 | | 142 | | 578 | | 3.34 | | 3.73 | |
| December..... | | | | | 1,780 | | 80 | | 324 | | 1.87 | | 2.16 | |
| January..... | | | | | 577 | | 90 | | 216 | | 1.25 | | 1.44 | |
| February..... | | | | | 674 | | 110 | | 300 | | 1.73 | | 1.80 | |
| March..... | | | | | 674 | | 110 | | 402 | | 2.32 | | 2.68 | |
| April..... | | | | | 935 | | 197 | | 432 | | 2.50 | | 2.79 | |
| May..... | | | | | 416 | | 105 | | 176 | | 1.02 | | 1.18 | |
| June..... | | | | | 242 | | 43 | | 92.6 | | .535 | | .60 | |
| July..... | | | | | 85 | | 25 | | 43.8 | | .253 | | .29 | |
| August..... | | | | | 40 | | 13 | | 22.5 | | .130 | | .15 | |
| September..... | | | | | 242 | | 6.8 | | 43.0 | | .249 | | .28 | |
| The year..... | | | | | 4,940 | | 6.8 | | 236 | | 1.36 | | 18.66 | |

Loyalsock Creek at Loyalsock, Pa.

Location.- Water-stage recorder, lat. 41°19'25", long. 76°54'40", at highway bridge at Loyalsock, Lycoming County, 2½ miles below mouth of Wallis Run. Zero of gage is 585.63 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.- 443 square miles.

Records available. -October 1931 to September 1938 in reports of U. S. Geological Survey; July 1925 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 13 years, 695 second-feet.

Extremes.— Maximum discharge, during year, 13,100 second-feet Oct. 23 (gage height, 9.25 feet), from rating curve extended above 3,300 second-feet; minimum, 48 second-feet Sept. 10-13 (gage height 2.72 feet).

1925-38: Maximum discharge, 54,000 second-foot Nov. 18, 1926 (gage height, 12.3 feet), from rating curve extended above 8,000 second-foot; minimum, 18 second-foot Sept. 18, 19, 22-25, 1932 (gage height, 2.57 feet).

Remarks.—Records good except those for periods of ice effect, Dec. 7-17, Jan. 17-24, Jan. 28 to Feb. 3, Feb. 27 to Mar. 5, which are fair and were determined from gage heights, weather records, three discharge measurements, and by comparison with records for stations in adjacent drainage areas.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|-------|-------|-------|-------|---------|-------|---------|-----|-------|------|-----------------|-------|-------------------|--|
| 1 | 78 | 1,200 | 905 | 701 | 580 | 440 | 770 | 465 | 382 | 229 | 100 | 52 | | |
| 2 | 78 | 1,000 | 760 | 960 | 550 | 460 | 714 | 424 | 346 | 234 | 134 | 52 | | |
| 3 | 76 | 883 | 660 | 741 | 570 | 460 | 652 | 382 | 400 | 220 | 166 | 68 | | |
| 4 | 73 | 750 | 598 | 620 | 1,160 | 400 | 596 | 418 | 394 | 185 | 126 | 68 | | |
| 5 | 81 | 652 | 604 | 580 | 850 | 420 | 540 | 430 | 322 | 160 | 108 | 55 | | |
| 6 | 100 | 604 | 588 | 524 | 795 | 1,100 | 508 | 556 | 295 | 139 | 92 | 55 | | |
| 7 | 95 | 540 | 500 | 680 | 2,720 | 883 | 493 | 451 | 270 | 126 | 84 | 52 | | |
| 8 | 95 | 493 | 350 | 820 | 1,750 | 705 | 500 | 388 | 251 | 117 | 77 | 50 | | |
| 9 | 89 | 465 | 280 | 568 | 1,430 | 588 | 674 | 388 | 229 | 111 | 72 | 50 | | |
| 10 | 92 | 451 | 240 | 564 | 1,630 | 548 | 1,200 | 406 | 204 | 108 | 68 | 48 | | |
| 11 | 86 | 412 | 220 | 532 | 1,140 | 486 | 1,210 | 400 | 196 | 111 | 87 | 48 | | |
| 12 | 94 | 382 | 210 | 479 | 1,000 | 479 | 2,170 | 364 | 268 | 120 | 119 | 48 | | |
| 13 | 116 | 4,050 | 200 | 465 | 1,120 | 508 | 2,370 | 316 | 970 | 106 | 123 | 52 | | |
| 14 | 142 | 3,880 | 190 | 437 | 1,600 | 1,050 | 1,930 | 300 | 528 | 100 | 98 | 66 | | |
| 15 | 145 | 2,340 | 190 | 400 | 1,280 | 1,350 | 1,570 | 458 | 358 | 98 | 82 | 112 | | |
| 16 | | | | | | | | | | | | | | |
| 18 | 120 | 1,720 | 210 | 352 | 927 | 1,260 | 1,390 | 840 | 280 | 95 | 72 | 142 | | |
| 17 | 103 | 1,360 | 370 | 310 | 800 | 1,630 | 1,170 | 580 | 238 | 92 | 84 | 133 | | |
| 18 | 97 | 1,170 | 3,510 | 280 | 810 | 2,830 | 1,070 | 451 | 216 | 92 | 486 | 117 | | |
| 19 | 134 | 971 | 3,220 | 240 | 883 | 2,110 | 1,560 | 400 | 196 | 103 | 311 | 114 | | |
| 20 | 466 | 872 | 2,060 | 220 | 1,290 | 1,920 | 1,390 | 400 | 177 | 108 | 181 | 133 | | |
| 21 | 720 | 790 | 1,560 | 220 | 960 | 1,740 | 1,220 | 486 | 163 | 103 | 133 | 448 | | |
| 22 | 489 | 696 | 1,260 | 230 | 820 | 1,540 | 1,220 | 479 | 152 | 119 | 111 | 1,070 | | |
| 23 | 6,260 | 612 | 1,080 | 250 | 820 | 1,430 | 1,120 | 508 | 146 | 244 | 96 | 952 | | |
| 24 | 4,580 | 548 | 840 | 300 | 741 | 1,500 | 949 | 690 | 149 | 356 | 84 | 688 | | |
| 25 | 2,230 | 493 | 780 | 3,690 | 652 | 1,280 | 840 | 960 | 149 | 225 | 77 | 419 | | |
| 26 | 1,520 | 508 | 714 | 2,900 | 540 | 1,130 | 760 | 696 | 142 | 160 | 70 | 295 | | |
| 27 | 1,260 | 516 | 604 | 1,880 | 540 | 1,020 | 669 | 604 | 314 | 133 | 66 | 238 | | |
| 28 | 1,350 | 624 | 544 | 1,400 | 480 | 861 | 604 | 582 | 714 | 117 | 61 | 200 | | |
| 29 | 2,920 | 1,490 | 516 | 1,000 | | 770 | 548 | 604 | 430 | 103 | 57 | 174 | | |
| 30 | 2,200 | 1,130 | 458 | 800 | | 705 | 524 | 516 | 285 | 98 | 57 | 156 | | |
| 31 | 1,560 | | 465 | 660 | | 687 | | 437 | | 92 | 53 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 6,260 | | 73 | | 885 | | 2.00 | | 2.31 | |
| November..... | | | | | 4,050 | | 382 | | 1,053 | | 2.38 | | 2.66 | |
| December..... | | | | | 3,510 | | 190 | | 797 | | 1.80 | | 2.06 | |
| January..... | | | | | 3,690 | | 220 | | 768 | | 1.73 | | 1.99 | |
| February..... | | | | | 2,720 | | 480 | | 1,016 | | 2.29 | | 2.38 | |
| March..... | | | | | 2,830 | | 400 | | 1,042 | | 2.35 | | 2.71 | |
| April..... | | | | | 2,370 | | 493 | | 1,031 | | 2.53 | | 2.60 | |
| May..... | | | | | 960 | | 300 | | 496 | | 1.12 | | 1.29 | |
| June..... | | | | | 970 | | 142 | | 305 | | .688 | | .77 | |
| July..... | | | | | 356 | | 92 | | 142 | | .321 | | .37 | |
| August..... | | | | | 486 | | 53 | | 114 | | .267 | | .30 | |
| September..... | | | | | 1,070 | | 48 | | 205 | | .463 | | .52 | |
| The year..... | | | | | 6,260 | | 48 | | 652 | | 1.47 | | 19.98 | |

Penn Creek at Penns Creek, Pa.

Location.- Water-stage recorder, lat. 40°51'35", long. 77°04'05", at bridge on State Highway 104, three-quarters of a mile northeast of Penns Creek, Snyder County. Zero of gage is 506.74 feet above mean sea level (preliminary levels of 1930).

Drainage area.- 301 square miles.

Records available.- October 1931 to September 1938 in reports of U. S. Geological Survey; October 1929 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.— Maximum discharge during year, 7,140 second-feet Nov. 13 (gage height, 9.16 feet); minimum, 31 second-feet Sept. 12 (gage height, 1.12 feet); minimum daily discharge, 57 second-feet Sept. 6.

1929-38: Maximum discharge, 12,900 second-feet Sept. 16, 1934 (gage height, 13.00 feet), from rating curve extended above 6,000 second-feet; minimum, 7.0 second-feet Sept. 27, 1932; minimum daily discharge, 26 second-feet Nov. 28-30, 1930.

Remarks.- Records fair. Discharge for periods of ice effect, Dec. 8-18, Jan. 10-24, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|-------|-------|-------|-------|-------|-------|-----|------|------|------|-------|
| 1 | 67 | 670 | 330 | 839 | 496 | 377 | 613 | 338 | 213 | 178 | 95 | 75 |
| 2 | 61 | 575 | 305 | 859 | 449 | 489 | 522 | 313 | 210 | 196 | 95 | 68 |
| 3 | 66 | 506 | 290 | 693 | 452 | 538 | 472 | 303 | 348 | 185 | 95 | 63 |
| 4 | 63 | 438 | 280 | 624 | 472 | 406 | 442 | 328 | 288 | 151 | 80 | 66 |
| 5 | 72 | 388 | 278 | 586 | 401 | 442 | 419 | 392 | 248 | 138 | 80 | 60 |
| 6 | 88 | 362 | 288 | 543 | 472 | 728 | 410 | 362 | 233 | 132 | 89 | 57 |
| 7 | 80 | 322 | 265 | 747 | 1,570 | 624 | 429 | 330 | 211 | 125 | 87 | 61 |
| 8 | 70 | 303 | 230 | 670 | 928 | 575 | 470 | 300 | 204 | 107 | 116 | 74 |
| 9 | 67 | 288 | 200 | 504 | 787 | 548 | 734 | 303 | 191 | 114 | 101 | 64 |
| 10 | 82 | 264 | 190 | 450 | 889 | 532 | 865 | 303 | 180 | 123 | 84 | 71 |
| 11 | 78 | 250 | 180 | 410 | 751 | 496 | 859 | 288 | 178 | 123 | 121 | 64 |
| 12 | 78 | 249 | 170 | 380 | 658 | 501 | 1,090 | 271 | 191 | 294 | 122 | 61 |
| 13 | 82 | 4,410 | 160 | 360 | 670 | 564 | 1,090 | 257 | 188 | 209 | 89 | 78 |
| 14 | 74 | 3,210 | 160 | 340 | 757 | 946 | 1,020 | 252 | 178 | 162 | 78 | 78 |
| 15 | 70 | 1,760 | 160 | 310 | 670 | 1,860 | 895 | 307 | 162 | 150 | 76 | 93 |
| 16 | 63 | 1,300 | 170 | 280 | 564 | 1,860 | 811 | 296 | 150 | 125 | 76 | 82 |
| 17 | 68 | 1,060 | 250 | 260 | 532 | 1,980 | 728 | 261 | 144 | 110 | 75 | 69 |
| 18 | 67 | 895 | 1,000 | 230 | 532 | 1,900 | 704 | 238 | 140 | 109 | 810 | 76 |
| 19 | 85 | 769 | 1,820 | 200 | 586 | 1,620 | 793 | 238 | 138 | 214 | 297 | 73 |
| 20 | 188 | 693 | 1,260 | 190 | 881 | 1,440 | 658 | 244 | 129 | 152 | 172 | 97 |
| 21 | 226 | 602 | 1,060 | 190 | 658 | 1,260 | 597 | 235 | 131 | 146 | 129 | 187 |
| 22 | 154 | 527 | 895 | 200 | 564 | 1,120 | 553 | 232 | 123 | 139 | 104 | 149 |
| 23 | 740 | 472 | 823 | 230 | 553 | 992 | 501 | 222 | 120 | 118 | 107 | 110 |
| 24 | 710 | 419 | 658 | 350 | 548 | 928 | 462 | 311 | 114 | 118 | 94 | 91 |
| 25 | 399 | 392 | 597 | 1,560 | 612 | 823 | 442 | 311 | 113 | 151 | 89 | 79 |
| 26 | 314 | 378 | 564 | 1,370 | 462 | 787 | 415 | 274 | 125 | 130 | 83 | 70 |
| 27 | 382 | 371 | 496 | 928 | 467 | 728 | 392 | 267 | 296 | 116 | 79 | 76 |
| 28 | 1,390 | 437 | 462 | 763 | 402 | 647 | 371 | 254 | 571 | 101 | 72 | 70 |
| 29 | 1,660 | 462 | 442 | 699 | | 591 | 362 | 267 | 275 | 104 | 69 | 64 |
| 30 | 1,160 | 375 | 410 | 652 | | 564 | 358 | 244 | 203 | 101 | 75 | 58 |
| 31 | 835 | | 415 | 597 | | 586 | | 225 | | 91 | 70 | |

| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|-----------|---------|---------|------|-----------------|-------------------|
| October | 1,660 | 61 | 308 | 1.02 | 1.18 |
| November | 4,410 | 249 | 772 | 2.56 | 2.86 |
| December | 1,820 | 160 | 478 | 1.59 | 1.83 |
| January | 1,560 | 190 | 549 | 1.82 | 2.10 |
| February | 1,570 | 401 | 632 | 2.10 | 2.19 |
| March | 1,980 | 377 | 886 | 2.94 | 3.39 |
| April | 1,090 | 358 | 616 | 2.05 | 2.29 |
| May | 392 | 222 | 283 | .940 | 1.08 |
| June | 571 | 113 | 200 | .664 | .74 |
| July | 294 | 91 | 142 | .472 | .54 |
| August | 810 | 69 | 123 | .409 | .47 |
| September | 187 | 57 | 79.5 | .264 | .2 |

SUSQUEHANNA RIVER BASIN

Mahantango Creek East near Dalmatia, Pa.

Location.- Water-stage recorder, lat. 40°36'40", long. 76°54'45", at highway bridge 2 miles above mouth and 3½ miles south of Dalmatia, Northumberland County. Zero of gage is 400.50 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.- 162 square miles.

Drainage area.- 162 square miles.
Records available.- October 1931 to September 1938 in reports of U. S. Geological Survey; October 1929 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, 5,840 second-feet Oct. 23 (gage height, 9.35 feet), from rating curve extended above 1,700 second-feet; minimum, 14 second-feet Oct. 3 (gage height, 1.19 feet); minimum daily discharge, 17 second-feet Oct. 3.

1929-38: Maximum discharge, 9,850 second-feet Aug. 24, 1933 (gage height, 6 feet), from rating curve extended above 3,000 second-feet; minimum, 1.5 second-feet Sept. 21, 1932 (gage height, 0.84 foot).

Remarks. - Records fair. b charge for period of recorder failure, Nov. 27-30, determined from range in stage shown by recorder graph and by comparison with records for stations in adjacent drainage areas. Discharge for periods of ice effect, Dec. 11-16, Jan. 10-23, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 1 | 24 | 435 | 259 | 265 | 284 | 243 | 181 | 139 | 308 | 218 | 281 | 96 |
| 2 | 22 | 359 | 224 | 410 | 236 | 261 | 163 | 130 | 268 | 230 | 284 | 81 |
| 3 | 17 | 308 | 212 | 382 | 230 | 239 | 151 | 119 | 284 | 179 | 181 | 81 |
| 4 | 22 | 258 | 204 | 333 | 274 | 198 | 141 | 114 | 224 | 144 | 181 | 39 |
| 5 | 20 | 227 | 196 | 298 | 224 | 209 | 132 | 119 | 187 | 123 | 136 | 40 |
| 6 | 24 | 206 | 198 | 258 | 217 | 224 | 123 | 110 | 161 | 112 | 119 | 34 |
| 7 | 25 | 181 | 190 | 294 | 843 | 209 | 123 | 98 | 139 | 104 | 119 | 32 |
| 8 | 26 | 166 | 166 | 261 | 686 | 192 | 125 | 88 | 139 | 92 | 106 | 38 |
| 9 | 23 | 156 | 156 | 204 | 542 | 179 | 151 | 90 | 119 | 96 | 100 | 36 |
| 10 | 22 | 139 | 114 | 190 | 461 | 176 | 209 | 92 | 108 | 96 | 92 | 32 |
| 11 | 27 | 127 | 120 | 180 | 367 | 174 | 151 | 92 | 106 | 168 | 123 | 96 |
| 12 | 25 | 123 | 115 | 170 | 319 | 192 | 130 | 85 | 161 | 915 | 96 | 32 |
| 13 | 24 | 1,150 | 110 | 160 | 301 | 201 | 121 | 78 | 153 | 378 | 79 | 34 |
| 14 | 26 | 1,330 | 106 | 150 | 298 | 443 | 119 | 74 | 130 | 239 | 72 | 39 |
| 15 | 23 | 815 | 100 | 140 | 258 | 1,430 | 119 | 92 | 102 | 190 | 64 | 47 |
| 16 | 22 | 582 | 100 | 130 | 221 | 1,220 | 116 | 108 | 90 | 161 | 61 | 50 |
| 17 | 21 | 474 | 110 | 120 | 198 | 965 | 108 | 85 | 87 | 127 | 69 | 39 |
| 18 | 25 | 394 | 250 | 100 | 201 | 840 | 112 | 72 | 85 | 112 | 486 | 30 |
| 19 | 37 | 333 | 549 | 90 | 209 | 686 | 141 | 71 | 78 | 108 | 188 | 38 |
| 20 | 215 | 301 | 410 | 90 | 447 | 578 | 134 | 69 | 69 | 116 | 96 | 76 |
| 21 | 207 | 261 | 359 | 90 | 501 | 483 | 319 | 68 | 64 | 134 | 81 | 306 |
| 22 | 114 | 227 | 315 | 93 | 470 | 406 | 239 | 76 | 61 | 1,900 | 72 | 554 |
| 23 | 2,730 | 198 | 281 | 100 | 426 | 355 | 224 | 71 | 81 | 1,460 | 69 | 330 |
| 24 | 2,770 | 176 | 233 | 148 | 422 | 322 | 198 | 1,040 | 64 | 1,300 | 64 | 224 |
| 25 | 883 | 163 | 224 | 1,110 | 382 | 274 | 190 | 743 | 57 | 765 | 58 | 171 |
| 26 | 564 | 163 | 212 | 1,240 | 344 | 258 | 179 | 501 | 308 | 510 | 52 | 139 |
| 27 | 242 | 150 | 184 | 730 | 322 | 242 | 166 | 406 | 654 | 382 | 48 | 119 |
| 28 | 870 | 200 | 176 | 600 | 281 | 212 | 161 | 365 | 815 | 301 | 44 | 108 |
| 29 | 1,130 | 300 | 168 | 492 | 198 | 198 | 153 | 1,330 | 414 | 298 | 44 | 94 |
| 30 | 815 | 270 | 156 | 348 | 184 | 184 | 146 | 564 | 281 | 326 | 41 | 88 |
| 31 | 578 | | 151 | 340 | | 184 | | 394 | | 204 | 41 | |

| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|---------|---------|------|-----------------|-------------------|
| October..... | 2,770 | 17 | 373 | 2.30 | 2.65 |
| November..... | 1,330 | 123 | 339 | 2.09 | 2.33 |
| December..... | 549 | 100 | 204 | 1.26 | 1.46 |
| January..... | 1,240 | 90 | 307 | 1.90 | 2.19 |
| February..... | 843 | 198 | 356 | 2.20 | 2.29 |
| March..... | 1,430 | 174 | 386 | 2.38 | 2.74 |
| April..... | 319 | 108 | 158 | .975 | 1.09 |
| May..... | 1,330 | 68 | 241 | 1.49 | 1.72 |
| June..... | 815 | 57 | 193 | 1.19 | 1.35 |
| July..... | 1,900 | 92 | 370 | 2.28 | 2.63 |
| August..... | 426 | 41 | 111 | .685 | .79 |
| September..... | 554 | 26 | 101 | .625 | .70 |
| The year..... | 2,770 | 17 | 262 | 1.62 | 21.91 |

Frankstown Branch of Juniata River at Williamsburg, Pa.

Location.- Water-stage recorder, lat. 40°27'45", long. 78°12'00", at highway bridge at Williamsburg, Blair County, 2½ miles above mouth of Clover Creek. Zero of gage is 831.78 feet above mean sea level (Pennsylvania Railroad benchmark).

Drainage area.- 291 square miles.

Records available. - October 1919 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; October 1916 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 19 years (1919-38). 391 second-feet.

Average discharge. - 19 years (1919-38), 391 second-feet.
Extremes. - Maximum discharge during year, 5,850 second-foot Oct. 28 (gage height, 9.80 feet), minimum, 40 second-feet Aug. 30 (gage height, 1.70 feet); minimum daily discharge, 58 second-foot Aug. 30, 31, Sept. 6.

daily discharge, 56 second-feet Aug. 30, 31, Sept. 6.
1916-38: Maximum discharge, 47,600 second-feet Mar. 18, 1936 (gage height, 18.58 feet, from floodmark in gage shelter), from rating curve extended on basis of slope-area determination; minimum, 13 second-feet July 24, 1934 (gage height, 0.97 feet); minimum daily discharge (estimated), 31 second-feet Dec. 24, 25, 1930.
Maximum stage known, 19.1 feet, from floodmark, June 1, 1889 (discharge, about 35,500 second-feet).

Remarks. - Records good except those for period of missing gage record, Dec. 14-20, which are poor and were determined by comparison with records for stations downstream. Regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|-------|-------|-------|-------|-------|------|-------|------|------|------|-------|
| 1 | 87 | 606 | 216 | 1,260 | 362 | 263 | 612 | 260 | 245 | 146 | 162 | 63 |
| 2 | 87 | 504 | 202 | 1,060 | 325 | 300 | 504 | 235 | 240 | 160 | 102 | 63 |
| 3 | 84 | 473 | 186 | 770 | 328 | 294 | 488 | 219 | 302 | 137 | 87 | 59 |
| 4 | 86 | 378 | 193 | 606 | 349 | 231 | 458 | 250 | 223 | 118 | 82 | 58 |
| 5 | 101 | 358 | 209 | 536 | 307 | 274 | 414 | 238 | 200 | 110 | 81 | 58 |
| 6 | 161 | 315 | 221 | 473 | 326 | 449 | 386 | 216 | 193 | 102 | 76 | 56 |
| 7 | 102 | 290 | 166 | 553 | 1,010 | 346 | 386 | 195 | 175 | 102 | 72 | 59 |
| 8 | 86 | 270 | 180 | 458 | 588 | 320 | 496 | 177 | 186 | 100 | 72 | 61 |
| 9 | 84 | 250 | 165 | 332 | 553 | 310 | 876 | 202 | 156 | 96 | 78 | 65 |
| 10 | 120 | 231 | 160 | 328 | 725 | 320 | 866 | 195 | 146 | 101 | 88 | 61 |
| 11 | 120 | 214 | 164 | 341 | 553 | 307 | 684 | 188 | 160 | 94 | 103 | 61 |
| 12 | 99 | 209 | 150 | 320 | 488 | 349 | 705 | 171 | 171 | 129 | 87 | 75 |
| 13 | 91 | 1,160 | 137 | 310 | 520 | 386 | 625 | 166 | 173 | 102 | 76 | 104 |
| 14 | 86 | 774 | 130 | 284 | 606 | 737 | 570 | 197 | 156 | 95 | 72 | 84 |
| 15 | 83 | 570 | 130 | 262 | 473 | 2,470 | 520 | 407 | 133 | 92 | 68 | 81 |
| 16 | 80 | 488 | 160 | 250 | 414 | 1,800 | 473 | 270 | 124 | 86 | 66 | 74 |
| 17 | 77 | 428 | 250 | 257 | 400 | 1,540 | 428 | 231 | 123 | 83 | 65 | 70 |
| 18 | 77 | 381 | 1,500 | 233 | 414 | 1,450 | 453 | 273 | 118 | 104 | 67 | 75 |
| 19 | 182 | 346 | 1,600 | 189 | 443 | 1,060 | 624 | 466 | 110 | 131 | 64 | 71 |
| 20 | 298 | 333 | 1,000 | 204 | 570 | 887 | 443 | 664 | 106 | 98 | 61 | 71 |
| 21 | 239 | 294 | 793 | 223 | 473 | 748 | 414 | 606 | 104 | 110 | 61 | 72 |
| 22 | 195 | 270 | 644 | 245 | 414 | 644 | 400 | 553 | 100 | 115 | 61 | 70 |
| 23 | 598 | 250 | 553 | 300 | 414 | 588 | 367 | 488 | 98 | 116 | 59 | 75 |
| 24 | 471 | 231 | 458 | 349 | 414 | 520 | 343 | 1,010 | 124 | 110 | 61 | 72 |
| 25 | 504 | 219 | 428 | 2,550 | 375 | 443 | 328 | 625 | 197 | 94 | 59 | 67 |
| 26 | 254 | 226 | 400 | 1,340 | 349 | 488 | 304 | 536 | 165 | 94 | 58 | 62 |
| 27 | 491 | 235 | 346 | 754 | 351 | 458 | 287 | 488 | 424 | 95 | 59 | 61 |
| 28 | 3,210 | 270 | 349 | 553 | 302 | 383 | 272 | 414 | 364 | 92 | 58 | 62 |
| 29 | 3,890 | 297 | 367 | 501 | | 367 | 287 | 351 | 196 | 92 | 58 | 61 |
| 30 | 1,460 | 245 | 351 | 473 | | 414 | 274 | 312 | 154 | 88 | 56 | 61 |
| 31 | 866 | | 386 | 458 | | 617 | | 277 | | 114 | 56 | |

| Month | | | | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|--|--|--|---------|---------|------|-----------------|-------------------|
| October..... | | | | 3,890 | 77 | 457 | 1.57 | 1.81 |
| November..... | | | | 1,160 | 209 | 370 | 1.27 | 1.42 |
| December..... | | | | 1,600 | 130 | 393 | 1.35 | 1.56 |
| January..... | | | | 2,550 | 189 | 541 | 1.86 | 2.14 |
| February..... | | | | 1,010 | 302 | 459 | 1.58 | 1.64 |
| March..... | | | | 2,470 | 231 | 638 | 2.19 | 2.52 |
| April..... | | | | 876 | 272 | 476 | 1.64 | 1.83 |
| May..... | | | | 1,010 | 166 | 351 | 1.21 | 1.40 |
| June..... | | | | 424 | 98 | 179 | .615 | .69 |
| July..... | | | | 160 | 83 | 107 | .368 | .42 |
| August..... | | | | 162 | 56 | 75.4 | .252 | .29 |
| September..... | | | | 104 | 56 | 68.4 | .235 | .26 |
| The year..... | | | | 3,890 | 56 | 342 | 1.18 | 15.98 |

Juniata River at Mapleton Depot, Pa.

Location.-Water-stage recorder, lat. 40°23'30", long. 77°56'10", a quarter of a mile below mouth of Scrub Run and a third of a mile below highway bridge at Mapleton Depot, Huntingdon County. Zero of gage is 556.89 feet above mean sea level (Pennsylvania Railroad benchmark).

Drainage area.- 2,030 square miles.

Records available.- December 1937 to September 1938.

Extremes.-Maximum discharge during period, 13,700 second-feet Dec. 18 (gage height, 10.82 feet); minimum, 105 second-feet Sept. 30 (gage height, 1.41 feet); minimum daily discharge, 223 second-feet Sept. 30.

Maximum stage known, 38.2 feet, from floodmark, Mar. 18, 1936 (discharge, about 160,000 second-feet).

Remarks.- Records good. Regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | |
|----------------|------|------|--------|---------|-------|---------|-------|-------|-------|-----------------|-------|-------------------|--|
| 1 | | | | 4,490 | 2,810 | 1,600 | 3,710 | 1,720 | 1,800 | 712 | 806 | 408 | |
| 2 | | | | 5,370 | 2,420 | 1,770 | 3,310 | 1,520 | 1,710 | 811 | 619 | 346 | |
| 3 | | | | 4,130 | 2,000 | 1,940 | 3,240 | 1,430 | 2,190 | 867 | 604 | 352 | |
| 4 | | | | 3,570 | 2,320 | 1,690 | 2,970 | 1,530 | 1,970 | 675 | 538 | 362 | |
| 5 | | | | 3,310 | 1,960 | 1,810 | 2,550 | 1,390 | 1,810 | 632 | 517 | 331 | |
| 6 | | | | 2,920 | 2,090 | 2,250 | 2,660 | 1,480 | 1,430 | 644 | 554 | 344 | |
| 7 | | | | 3,310 | 4,960 | 1,950 | 2,380 | 1,260 | 1,430 | 569 | 536 | 358 | |
| 8 | | | | 2,850 | 3,850 | 2,030 | 2,480 | 1,250 | 1,220 | 522 | 562 | 354 | |
| 9 | | | | 2,200 | 3,570 | 1,860 | 3,710 | 1,240 | 1,200 | 538 | 726 | 432 | |
| 10 | | | | 2,030 | 3,710 | 1,880 | 4,890 | 1,200 | 1,030 | 587 | 618 | 372 | |
| 11 | | | | 2,000 | 3,440 | 1,720 | 4,730 | 1,150 | 1,080 | 534 | 1,040 | 351 | |
| 12 | | | | 2,130 | 3,310 | 1,790 | 4,580 | 1,130 | 1,270 | 661 | 712 | 431 | |
| 13 | | | | 2,000 | 3,180 | 2,040 | 4,130 | 1,080 | 1,360 | 642 | 616 | 533 | |
| 14 | | | | 1,780 | 3,310 | 3,120 | 3,710 | 1,070 | 1,100 | 620 | 540 | 505 | |
| 15 | | | | 1,660 | 3,310 | 8,440 | 3,440 | 1,840 | 944 | 670 | 529 | 456 | |
| 16 | | | 1,090 | 1,510 | 2,960 | 12,700 | 3,180 | 1,580 | 806 | 525 | 465 | 472 | |
| 17 | | | 2,540 | 1,630 | 2,810 | 11,400 | 2,990 | 1,540 | 855 | 496 | 479 | 574 | |
| 18 | | | 11,200 | 1,500 | 2,520 | 10,500 | 2,510 | 1,480 | 787 | 579 | 529 | 457 | |
| 19 | | | 11,700 | 1,210 | 2,810 | 8,960 | 3,440 | 1,730 | 910 | 755 | 581 | 659 | |
| 20 | | | 7,950 | 1,270 | 3,030 | 6,960 | 2,750 | 2,800 | 670 | 626 | 410 | 1,500 | |
| 21 | | | 5,540 | 1,320 | 3,310 | 5,880 | 2,930 | 3,580 | 682 | 626 | 588 | 1,180 | |
| 22 | | | 4,430 | 1,460 | 2,990 | 4,890 | 2,430 | 3,850 | 696 | 693 | 452 | 691 | |
| 23 | | | 3,710 | 1,560 | 2,580 | 4,280 | 2,230 | 3,850 | 690 | 679 | 366 | 580 | |
| 24 | | | 3,310 | 2,000 | 2,660 | 3,850 | 2,240 | 6,050 | 691 | 750 | 394 | 534 | |
| 25 | | | 2,870 | 7,420 | 2,470 | 3,440 | 2,190 | 5,880 | 792 | 900 | 314 | 607 | |
| 26 | | | 2,450 | 10,600 | 2,330 | 3,310 | 1,950 | 4,260 | 901 | 800 | 368 | 237 | |
| 27 | | | 2,280 | 6,520 | 2,230 | 3,240 | 1,860 | 3,710 | 1,520 | 730 | 333 | 263 | |
| 28 | | | 2,150 | 4,430 | 2,200 | 2,740 | 1,670 | 3,150 | 2,000 | 785 | 324 | 240 | |
| 29 | | | 2,020 | 3,710 | | 2,630 | 1,790 | 2,630 | 1,120 | 674 | 348 | 286 | |
| 30 | | | 2,110 | 3,440 | | 2,420 | 1,690 | 2,350 | 766 | 794 | 282 | 223 | |
| 31 | | | 2,160 | 3,310 | | 2,900 | | 1,780 | | 712 | 330 | | |
| Month | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October | | | | 11,700 | | 1,090 | | 4,219 | | 2.08 | | 1.24 | |
| November | | | | 10,600 | | 1,210 | | 3,117 | | 1.54 | | 1.78 | |
| December 16-31 | | | | 4,860 | | 1,960 | | 2,894 | | 1.43 | | 1.49 | |
| January | | | | 12,700 | | 1,600 | | 4,064 | | 2.00 | | 2.31 | |
| February | | | | 4,890 | | 1,670 | | 2,945 | | 1.45 | | 1.62 | |
| March | | | | 6,050 | | 1,070 | | 2,275 | | 1.12 | | 1.29 | |
| April | | | | 2,190 | | 670 | | 1,181 | | .582 | | .65 | |
| May | | | | 900 | | 496 | | 671 | | .331 | | .38 | |
| June | | | | 1,040 | | 282 | | 506 | | .249 | | .29 | |
| July | | | | 1,500 | | 223 | | 480 | | .236 | | .26 | |
| August | | | | | | | | | | | | | |
| September | | | | | | | | | | | | | |
| The year | | | | | | | | | | | | | |

Juniata River at Newport, Pa.

Location.- Water-stage recorder, lat. 40°28'45", long. 77°07'45", at highway bridge at Newport, Perry County, 1,000 feet above mouth of Little Buffalo Creek. Zero of gage is 363.16 feet above mean sea level (general adjustment of 1912).

Drainage area.- 3,354 square miles.

Records available.- March 1899 to December 1913, October 1918 to September 1921, October 1923 to September 1926, October 1931 to September 1938 in reports of U. S. Geological Survey; March 1899 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.-37 years (1899-1905), 1907-38), 4,441 second-feet.

Extremes.-Maximum discharge during year, 30,500 second-feet Oct. 30 (gage height, 12.57 feet); minimum, 402 second-feet Sept. 30 (gage height, 2.98 feet).

1899-1938: Maximum discharge, 215,000 second-feet Mar. 19, 1936 (gage height, 34.24 feet, from floodmark in gage shelter), from rating curve extended on basis of slope-area determination; minimum (estimated), 260 second-feet Aug. 27, 1925 (gage height, 2.71 feet); minimum daily discharge, 286 second-feet Sept. 25, 1932.

Maximum stage known, 35.9 feet, from floodmarks, June 1, 1889 (discharge, about 237,000 second-feet).

Remarks.- Records good except those for period of ice effect, Dec. 12-17, which are fair and were determined from gage heights, weather records, and by comparison with records for stations upstream. Discharge for periods of recorder failure, Dec. 15-20, Sept. 2-6, based on twice-daily gage readings. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|--------|--------|--------|--------|---------|---------|-------|-----------------|-------|-------|-------------------|-------|
| 1 | 755 | 10,000 | 2,840 | 3,920 | 4,850 | 3,790 | 4,850 | 2,700 | 3,050 | 1,330 | 1,210 | 568 |
| 2 | 740 | 7,300 | 2,610 | 7,090 | 4,180 | 3,420 | 5,410 | 2,550 | 2,800 | 1,080 | 1,080 | 470 |
| 3 | 714 | 5,840 | 2,440 | 7,450 | 3,920 | 3,050 | 4,990 | 2,460 | 2,940 | 1,310 | 992 | 490 |
| 4 | 701 | 4,990 | 2,220 | 6,120 | 3,540 | 3,170 | 4,720 | 2,370 | 3,290 | 1,050 | 930 | 566 |
| 5 | 815 | 4,310 | 2,120 | 5,410 | 3,540 | 3,030 | 4,440 | 2,410 | 3,000 | 1,100 | 802 | 480 |
| 6 | 740 | 3,790 | 2,140 | 4,990 | 3,290 | 3,050 | 4,050 | 2,370 | 2,680 | 945 | 915 | 480 |
| 7 | 875 | 5,540 | 2,240 | 4,990 | 5,410 | 3,540 | 4,050 | 2,260 | 2,310 | 886 | 900 | 516 |
| 8 | 926 | 3,050 | 2,140 | 5,270 | 7,300 | 3,290 | 3,790 | 2,120 | 2,140 | 858 | 1,020 | 520 |
| 9 | 908 | 2,910 | 2,080 | 4,580 | 5,980 | 3,050 | 4,310 | 1,990 | 2,010 | 788 | 1,130 | 510 |
| 10 | 926 | 2,680 | 1,580 | 3,660 | 5,840 | 3,000 | 5,840 | 1,810 | 1,810 | 830 | 930 | 543 |
| 11 | 950 | 2,500 | 1,230 | 3,420 | 5,690 | 2,940 | 6,560 | 1,850 | 1,710 | 844 | 1,050 | 543 |
| 12 | 985 | 2,330 | 1,200 | 3,540 | 5,270 | 2,940 | 6,420 | 1,850 | 1,750 | 1,270 | 1,320 | 600 |
| 13 | 960 | 13,800 | 1,200 | 3,540 | 4,990 | 3,050 | 6,120 | 1,830 | 1,790 | 1,040 | 1,510 | 543 |
| 14 | 1,440 | 17,000 | 1,100 | 3,420 | 5,130 | 3,920 | 5,690 | 1,600 | 1,950 | 1,000 | 1,080 | 648 |
| 15 | 1,460 | 11,700 | 1,100 | 3,170 | 5,130 | 8,420 | 5,270 | 1,930 | 1,770 | 1,040 | 830 | 788 |
| 16 | 1,070 | 8,500 | 1,500 | 2,940 | 4,850 | 17,100 | 4,850 | 2,330 | 1,620 | 886 | 788 | 844 |
| 17 | 675 | 6,850 | 1,800 | 2,730 | 4,440 | 20,600 | 4,580 | 2,460 | 1,330 | 872 | 866 | 748 |
| 18 | 555 | 5,690 | 4,050 | 2,800 | 4,310 | 18,200 | 4,310 | 2,290 | 1,240 | 774 | 1,710 | 722 |
| 19 | 781 | 5,130 | 17,800 | 2,550 | 4,180 | 16,100 | 4,440 | 2,180 | 1,230 | 858 | 1,230 | 760 |
| 20 | 1,610 | 4,440 | 14,800 | 2,180 | 5,550 | 13,100 | 4,990 | 2,290 | 1,190 | 952 | 1,050 | 872 |
| 21 | 2,500 | 4,050 | 10,200 | 2,160 | 6,270 | 10,500 | 4,310 | 3,540 | 1,190 | 1,030 | 698 | 1,640 |
| 22 | 2,930 | 3,790 | 7,600 | 2,440 | 6,120 | 8,970 | 4,310 | 4,310 | 1,020 | 1,230 | 635 | 2,220 |
| 23 | 4,820 | 3,290 | 6,420 | 2,680 | 5,410 | 7,600 | 3,920 | 4,720 | 1,000 | 1,280 | 624 | 1,580 |
| 24 | 8,350 | 3,050 | 5,550 | 2,870 | 4,990 | 6,700 | 3,540 | 9,870 | 1,020 | 1,190 | 624 | 1,100 |
| 25 | 7,190 | 2,890 | 4,850 | 4,760 | 4,850 | 6,120 | 3,420 | 11,000 | 1,000 | 1,110 | 600 | 900 |
| 26 | 5,360 | 2,700 | 4,440 | 12,700 | 4,440 | 5,550 | 3,290 | 8,440 | 1,050 | 1,230 | 532 | 830 |
| 27 | 4,680 | 2,590 | 3,920 | 13,100 | 4,180 | 5,410 | 3,170 | 6,420 | 1,560 | 1,210 | 554 | 858 |
| 28 | 9,000 | 2,700 | 3,660 | 8,550 | 3,920 | 5,130 | 2,820 | 5,550 | 1,950 | 1,150 | 490 | 600 |
| 29 | 22,100 | 3,000 | 3,540 | 6,270 | | 4,440 | 2,890 | 4,850 | 2,570 | 1,110 | 490 | 440 |
| 30 | 26,800 | 2,960 | 3,290 | 5,840 | | 4,310 | 2,640 | 4,050 | 2,030 | 1,070 | 490 | 430 |
| 31 | 15,800 | | 3,290 | 5,270 | | 4,180 | | 3,540 | | 1,010 | 505 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | | Run-off in inches | |
| October..... | | | | | 26,800 | 555 | 4,133 | 1.23 | | | 1.42 | |
| November..... | | | | | 17,000 | 2,330 | 5,246 | 1.56 | | | 1.74 | |
| December..... | | | | | 17,800 | 1,100 | 4,018 | 1.20 | | | 1.38 | |
| January..... | | | | | 13,100 | 2,160 | 4,839 | 1.44 | | | 1.66 | |
| February..... | | | | | 7,300 | 3,290 | 4,913 | 1.46 | | | 1.52 | |
| March..... | | | | | 20,600 | 2,940 | 6,699 | 2.00 | | | 2.31 | |
| April..... | | | | | 6,560 | 2,640 | 4,466 | 1.33 | | | 1.48 | |
| May..... | | | | | 11,000 | 1,600 | 3,546 | 1.06 | | | 1.22 | |
| June..... | | | | | 3,290 | 1,000 | 1,967 | .557 | | | .62 | |
| July..... | | | | | 1,330 | 774 | 1,043 | .311 | | | .36 | |
| August..... | | | | | 1,710 | 490 | 890 | .265 | | | .31 | |
| September..... | | | | | 2,220 | 430 | 760 | .227 | | | .25 | |
| The year..... | | | | | 26,800 | 430 | 3,529 | 1.05 | | | 14.27 | |

Location.- Water-stage recorder, lat. 40°36'45", long. 78°08'35", 150 feet below Pennsylvania Railroad bridge, half a mile northwest of Spruce Creek, Huntingdon County, and half a mile above mouth of Spruce Creek. Zero of gage is 749.33 feet above mean sea level (Pennsylvania Railroad benchmark).

Drainage area.- 220 square miles.

Records available.- June to September 1938.

Extremes.—Maximum discharge during period, 457 second-feet June 27 (gage height, 3.12 feet); minimum, 52 second-feet Sept. 7, 26 (gage height, 1.47 feet); minimum daily discharge, 65 second-feet Sept. 6, 11, 26.

Maximum stage known, about 19.1 feet, from floodmark 175 feet downstream, Mar. 18, 1936 (discharge not determined).

Remarks.- Records good. Some regulation from operation of mills upstream.

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|------|------|------|------|---------|---------|------|-----------------|-------------------|------|------|-------|
| 1 | | | | | | | | | | 126 | 87 | 72 |
| 2 | | | | | | | | | | 142 | 90 | 71 |
| 3 | | | | | | | | | | 126 | 82 | 68 |
| 4 | | | | | | | | | 209 | 115 | 82 | 71 |
| 5 | | | | | | | | | 199 | 108 | 88 | 69 |
| 6 | | | | | | | | | 187 | 103 | 82 | 68 |
| 7 | | | | | | | | | 175 | 103 | 85 | 68 |
| 8 | | | | | | | | | 177 | 100 | 110 | 78 |
| 9 | | | | | | | | | 159 | 101 | 122 | 69 |
| 10 | | | | | | | | | 151 | 108 | 94 | 69 |
| 11 | | | | | | | | | 177 | 101 | 215 | 65 |
| 12 | | | | | | | | | 184 | 132 | 135 | 78 |
| 13 | | | | | | | | | 164 | 108 | 103 | 102 |
| 14 | | | | | | | | | 161 | 98 | 90 | 87 |
| 15 | | | | | | | | | 140 | 96 | 84 | 89 |
| 16 | | | | | | | | | 136 | 92 | 84 | 78 |
| 17 | | | | | | | | | 138 | 90 | 81 | 72 |
| 18 | | | | | | | | | 132 | 96 | 84 | 76 |
| 19 | | | | | | | | | 130 | 106 | 79 | 78 |
| 20 | | | | | | | | | 124 | 101 | 78 | 78 |
| 21 | | | | | | | | | 119 | 110 | 75 | 75 |
| 22 | | | | | | | | | 119 | 156 | 76 | 74 |
| 23 | | | | | | | | | 117 | 113 | 75 | 79 |
| 24 | | | | | | | | | 117 | 112 | 74 | 80 |
| 25 | | | | | | | | | 170 | 95 | 72 | 71 |
| 26 | | | | | | | | | 147 | 92 | 71 | 65 |
| 27 | | | | | | | | | 259 | 100 | 71 | 71 |
| 28 | | | | | | | | | 227 | 95 | 72 | 69 |
| 29 | | | | | | | | | 149 | 92 | 69 | 68 |
| 30 | | | | | | | | | 128 | 90 | 72 | 69 |
| 31 | | | | | | | | | | 87 | 69 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | |
| October..... | | | | | | | | | | | | |
| November..... | | | | | | | | | | | | |
| December..... | | | | | | | | | | | | |
| January..... | | | | | | | | | | | | |
| February..... | | | | | | | | | | | | |
| March..... | | | | | | | | | | | | |
| April..... | | | | | | | | | | | | |
| May..... | | | | | | | | | | | | |
| June..... 4-30 | | | | | 259 | 117 | 159 | 0.723 | 0.73 | | | |
| July..... | | | | | 156 | 87 | 106 | .482 | .56 | | | |
| August..... | | | | | 215 | 69 | 88.7 | .403 | .46 | | | |
| September..... | | | | | 102 | 65 | 74.0 | .536 | .57 | | | |
| The year..... | | | | | | | | | | | | |

Location.— Chain gage, lat. 40°36'40", long. 78°00'25", at highway bridge 3½ miles northeast of Petersburg, Huntingdon County, and 4½ miles above mouth. Zero of gage is 891.38 feet above mean sea level (preliminary levels of 1912).

Drainage area.- 46.4 square miles.

Records available.- October 1931 to May 1938 in reports of U. S. Geological Survey; October 1929 to May 1938 in reports of Pennsylvania Department of Forests and Waters (discontinued).

Extremes.— Maximum discharge during period, 1,620 second-feet Jan. 25 (gage height, 6.7 feet, from graph based on gage readings); from rating curve extended above 750 second-feet; minimum, 4.8 second-feet Oct. 2 (gage height, 0.72 foot).

1929-38: Maximum discharge, 3,420 second-foot Mar. 18, 1936 (gage height, 9.32 feet, from floodmark), from rating curve extended above 750 second-foot; minimum, 0.9 second-foot Sept. 19, 1932 (gage height, 0.48 foot).

Remarks.—Records fair. Discharge for periods of ice effect, Dec. 3-17, Jan. 9-11, 19-22, Feb. 28 to Mar. 1, Mar. 4, 5, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Some regulation at low stages from power operations upstream.

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------------|------|------|------|---------|------|---------|------|------|-----------------|------|-------------------|-------|
| 1 | 5.2 | 80 | 25 | 360 | 57 | 46 | 91 | 32 | | | | |
| 2 | 4.9 | 70 | 26 | 164 | 59 | 44 | 69 | 28 | | | | |
| 3 | 5.2 | 61 | 21 | 110 | 48 | 42 | 62 | 28 | | | | |
| 4 | 5.7 | 52 | 20 | 88 | 49 | 39 | 62 | 35 | | | | |
| 5 | 8.4 | 45 | 22 | 78 | 43 | 42 | 56 | 29 | | | | |
| 6 | 9.4 | 42 | 25 | 78 | 66 | 57 | 52 | 28 | | | | |
| 7 | 6.3 | 37 | 21 | 149 | 194 | 44 | 55 | 27 | | | | |
| 8 | 5.7 | 34 | 18 | 76 | 89 | 40 | 112 | | | | | |
| 9 | 5.2 | 32 | 16 | 67 | 84 | 32 | 230 | | | | | |
| 10 | 14 | 28 | 15 | 60 | 98 | 38 | 163 | | | | | |
| 11 | 8.7 | 25 | 14 | 55 | 68 | 34 | 128 | | | | | |
| 12 | 6.8 | 24 | 14 | 52 | 64 | 32 | 110 | | | | | |
| 13 | 7.1 | 453 | 13 | 52 | 71 | 57 | 89 | | | | | |
| 14 | 5.7 | 158 | 13 | 50 | 128 | 252 | 82 | | | | | |
| 15 | 5.7 | 104 | 13 | 42 | 71 | 402 | 72 | | | | | |
| 16 | 5.7 | 83 | 17 | 51 | 57 | 467 | 64 | | | | | |
| 17 | 6.0 | 74 | 400 | 39 | 58 | 275 | 59 | | | | | |
| 18 | 7.0 | 60 | 992 | 36 | 66 | 244 | 70 | | | | | |
| 19 | 54 | 53 | 262 | 34 | 65 | 172 | 96 | | | | | |
| 20 | 143 | 50 | 149 | 31 | 128 | 142 | 63 | | | | | |
| 21 | 42 | 42 | 116 | 30 | 73 | 116 | 56 | | | | | |
| 22 | 28 | 39 | 98 | 33 | 73 | 92 | 57 | | | | | |
| 23 | 417 | 35 | 83 | 47 | 68 | 85 | 47 | | | | | |
| 24 | 132 | 29 | 62 | 95 | 62 | 78 | 45 | | | | | |
| 25 | 69 | 29 | 61 | 885 | 54 | 68 | 42 | | | | | |
| 26 | 56 | 30 | 57 | 194 | 54 | 87 | 38 | | | | | |
| 27 | 86 | 31 | 46 | 149 | 51 | 67 | 36 | | | | | |
| 28 | 427 | 47 | 51 | 104 | 48 | 55 | 34 | | | | | |
| 29 | 453 | 40 | 49 | 98 | | 61 | 46 | | | | | |
| 30 | 170 | 31 | 48 | 72 | | 62 | 36 | | | | | |
| 31 | 110 | | 72 | 64 | | 98 | | | | | | |
| Month | | | | Maximum | | Minimum | | Mean | Per square mile | | Run-off in inches | |
| October..... | | | | 453 | | 4.9 | | 74.5 | 1.61 | | 1.86 | |
| November..... | | | | 453 | | 24 | | 63.9 | 1.38 | | 1.54 | |
| December..... | | | | 992 | | 13 | | 91.6 | 1.97 | | 2.27 | |
| January..... | | | | 885 | | 30 | | 111 | 2.39 | | 2.76 | |
| February..... | | | | 194 | | 43 | | 73.1 | 1.58 | | 1.64 | |
| March..... | | | | 467 | | 32 | | 109 | 2.35 | | 2.71 | |
| April..... | | | | 230 | | 34 | | 74.1 | 1.60 | | 1.78 | |
| May... 1-7..... | | | | 35 | | 27 | | 29.6 | .638 | | .17 | |

Standing Stone Creek near Huntingdon, Pa.

Location.—Water-stage recorder, lat. 40°31'25", long. 77°58'15", at bridge on State Highway 545, 3½ miles northeast of Huntingdon, Huntingdon County, and 3¼ miles above mouth. Zero of gage is 617.81 feet above mean sea level (preliminary levels of 1924-25).

Drainage area.—128 square miles.

Records available.—October 1931 to September 1938 in reports of U. S. Geological Survey; October 1929 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.—Maximum discharge during year, 1,960 second-feet Dec. 18 (gage height, 5.72 feet); minimum, 14 second-feet Sept. 10, 29, 30 (gage height, 1.55 feet). 1929-38: Maximum discharge, 5,500 second-feet Mar. 18, 1936 (gage height, 9.14 feet), from rating curve extended above 1,500 second-feet; minimum, 2.8 second-feet Feb. 11, 1931 (gage height, 0.64 foot); minimum daily discharge, 7.6 second-feet Sept. 12-14, 18-26, 1932. Maximum stage known, 9.38 feet, from floodmark, June 1, 1889 (discharge, about 5,920 second-feet).

Remarks.—Records good except those prior to Mar. 15, which are fair. Discharge for periods of ice effect, Nov. 24, 25, Dec. 4, 5, 10-17, Jan. 9-13, 20-24, determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|-------|------|-------|-------|---------|-------|---------|-----|------|------|-----------------|-------|-------------------|--|
| 1 | 20 | 203 | 80 | 517 | 165 | 127 | 249 | 113 | 86 | 44 | 24 | 17 | | |
| 2 | 20 | 164 | 76 | 512 | 115 | 131 | 197 | 100 | 99 | 58 | 32 | 17 | | |
| 3 | 19 | 142 | 62 | 325 | 136 | 124 | 183 | 94 | 280 | 46 | 26 | 16 | | |
| 4 | 19 | 122 | 60 | 245 | 131 | 100 | 169 | 104 | 137 | 37 | 22 | 16 | | |
| 5 | 22 | 106 | 70 | 213 | 113 | 120 | 156 | 109 | 107 | 33 | 26 | 16 | | |
| 6 | 28 | 98 | 80 | 180 | 139 | 174 | 146 | 120 | 96 | 31 | 25 | 15 | | |
| 7 | 24 | 88 | 61 | 344 | 689 | 134 | 146 | 92 | 86 | 30 | 32 | 15 | | |
| 8 | 23 | 81 | 56 | 270 | 326 | 113 | 172 | 82 | 86 | 30 | 102 | 16 | | |
| 9 | 21 | 78 | 53 | 210 | 264 | 106 | 298 | 84 | 75 | 32 | 71 | 16 | | |
| 10 | 24 | 71 | 50 | 190 | 288 | 106 | 385 | 84 | 67 | 40 | 35 | 15 | | |
| 11 | 29 | 67 | 47 | 210 | 227 | 104 | 300 | 80 | 67 | 34 | 78 | 16 | | |
| 12 | 25 | 69 | 45 | 200 | 192 | 120 | 269 | 71 | 105 | 48 | 39 | 16 | | |
| 13 | 24 | 799 | 43 | 170 | 196 | 150 | 236 | 66 | 84 | 47 | 28 | 20 | | |
| 14 | 25 | 558 | 41 | 150 | 279 | 513 | 212 | 72 | 66 | 79 | 23 | 20 | | |
| 15 | 22 | 300 | 40 | 149 | 237 | 1,130 | 194 | 113 | 59 | 50 | 21 | 20 | | |
| 16 | 21 | 223 | 45 | 160 | 184 | 885 | 178 | 148 | 54 | 33 | 21 | 20 | | |
| 17 | 22 | 186 | 100 | 124 | 184 | 777 | 164 | 107 | 53 | 28 | 21 | 18 | | |
| 18 | 24 | 164 | 1,340 | 116 | 170 | 706 | 180 | 88 | 50 | 29 | 26 | 20 | | |
| 19 | 56 | 142 | 841 | 66 | 189 | 518 | 362 | 105 | 47 | 37 | 24 | 20 | | |
| 20 | 116 | 134 | 437 | 66 | 269 | 430 | 227 | 144 | 44 | 30 | 20 | 22 | | |
| 21 | 87 | 120 | 321 | 66 | 238 | 362 | 197 | 115 | 43 | 28 | 18 | 51 | | |
| 22 | 52 | 104 | 264 | 70 | 186 | 314 | 183 | 98 | 40 | 56 | 18 | 27 | | |
| 23 | 583 | 96 | 230 | 80 | 180 | 286 | 169 | 94 | 40 | 38 | 18 | 23 | | |
| 24 | 359 | 92 | 183 | 130 | 174 | 269 | 154 | 523 | 39 | 55 | 17 | 24 | | |
| 25 | 144 | 88 | 170 | 1,100 | 155 | 236 | 144 | 261 | 39 | 44 | 17 | 18 | | |
| 26 | 96 | 86 | 158 | 673 | 136 | 243 | 134 | 186 | 48 | 30 | 16 | 16 | | |
| 27 | 143 | 85 | 134 | 399 | 139 | 240 | 127 | 172 | 88 | 33 | 16 | 16 | | |
| 28 | 852 | 98 | 131 | 269 | 109 | 200 | 122 | 159 | 181 | 31 | 16 | 16 | | |
| 29 | 1,140 | 115 | 134 | 262 | 183 | 124 | 120 | 68 | 27 | 16 | 15 | 15 | | |
| 30 | 512 | 92 | 124 | 220 | 180 | 104 | 104 | 50 | 28 | 16 | 15 | 15 | | |
| 31 | 292 | | 142 | 183 | | 209 | | 94 | | 25 | 16 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 1,140 | | 19 | | 156 | | 1.22 | | 1.41 | |
| November..... | | | | | 799 | | 67 | | 159 | | 1.24 | | 1.38 | |
| December..... | | | | | 1,340 | | 40 | | 181 | | 1.41 | | 1.63 | |
| January..... | | | | | 1,100 | | 66 | | 254 | | 1.98 | | 2.28 | |
| February..... | | | | | 689 | | 109 | | 208 | | 1.63 | | 1.70 | |
| March..... | | | | | 1,130 | | 100 | | 300 | | 2.34 | | 2.70 | |
| April..... | | | | | 385 | | 120 | | 197 | | 1.54 | | 1.72 | |
| May..... | | | | | 523 | | 66 | | 125 | | .977 | | 1.13 | |
| June..... | | | | | 280 | | 39 | | 79.5 | | .621 | | .69 | |
| July..... | | | | | 79 | | 25 | | 38.4 | | .300 | | .35 | |
| August..... | | | | | 102 | | 16 | | 28.4 | | .222 | | .26 | |
| September..... | | | | | 51 | | 15 | | 19.1 | | .149 | | .17 | |
| The year..... | | | | | 1,340 | | 15 | | 145 | | 1.13 | | 15.42 | |

Raystown Branch of Juniata River at Saxton, Pa.

Location.—Water-stage recorder, lat. 40°12'55", long. 78°15'55", at highway bridge ½ mile west of Saxton, Bedford County, and 1½ miles above mouth of Shoup Run. Zero of gage is 794.73 feet above mean sea level (preliminary levels of 1910).

Drainage area.—756 square miles.

Records available.—October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; August 1911 to September 1938 in reports of Pennsylvania Department of Forests and Waters. Records prior to October 1931 obtained at a site 0.8 mile downstream.

Average discharge.—27 years, 940 second-feet.

Extremes.—Maximum discharge during year, 12,500 second-feet Oct. 29 (gage height, 9.44 feet); minimum, 75 second-feet Sept. 1 (gage height, 1.04 feet); minimum daily discharge, 88 second-feet Aug. 31. 1911-38: Maximum discharge, 80,500 second-feet Mar. 18, 1936 (gage height, 24.54 feet, from floodmark in gage shelter), from rating curve extended on basis of slope-area determination; minimum, 52 second-feet Oct. 17, 18, 1930. Maximum flood known prior to 1911, 23.0 feet, from floodmark at present site, June 1, 1889 (discharge, about 71,300 second-feet).

Remarks.—Records good except those for period of ice effect, Dec. 8-18, which are fair and were determined from gage heights, weather records, and by comparison with records in adjacent drainage areas. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|--------|-------|-------|-------|---------|---------|-------|-------|-----------------|------|-------------------|-------|
| 1 | 142 | 1,920 | 461 | 642 | 952 | 490 | 1,240 | 469 | 596 | 205 | 210 | 89 |
| 2 | 139 | 1,450 | 415 | 1,050 | 767 | 584 | 1,110 | 437 | 544 | 200 | 191 | 95 |
| 3 | 139 | 1,200 | 393 | 1,100 | 699 | 587 | 1,050 | 400 | 718 | 187 | 205 | 126 |
| 4 | 142 | 994 | 312 | 962 | 680 | 526 | 1,000 | 371 | 738 | 179 | 179 | 104 |
| 5 | 152 | 838 | 379 | 848 | 652 | 437 | 920 | 367 | 535 | 168 | 156 | 97 |
| 6 | 191 | 718 | 429 | 758 | 615 | 485 | 818 | 379 | 469 | 156 | 142 | 97 |
| 7 | 291 | 652 | 368 | 748 | 1,010 | 624 | 738 | 371 | 445 | 142 | 142 | 91 |
| 8 | 250 | 587 | 350 | 958 | 1,420 | 552 | 748 | 338 | 422 | 142 | 126 | 100 |
| 9 | 191 | 535 | 320 | 680 | 1,040 | 526 | 1,340 | 331 | 386 | 139 | 146 | 121 |
| 10 | 191 | 477 | 300 | 429 | 1,090 | 518 | 1,820 | 319 | 344 | 142 | 130 | 142 |
| 11 | 210 | 429 | 280 | 579 | 1,200 | 509 | 1,700 | 325 | 312 | 130 | 130 | 130 |
| 12 | 312 | 407 | 270 | 579 | 994 | 501 | 1,460 | 306 | 306 | 136 | 212 | 117 |
| 13 | 254 | 889 | 260 | 526 | 952 | 579 | 1,350 | 299 | 338 | 133 | 172 | 120 |
| 14 | 229 | 2,090 | 250 | 518 | 1,140 | 724 | 1,220 | 293 | 319 | 142 | 142 | 117 |
| 15 | 214 | 1,420 | 250 | 453 | 1,170 | 4,490 | 1,090 | 357 | 293 | 168 | 126 | 128 |
| 16 | 200 | 1,140 | 280 | 429 | 994 | 5,240 | 973 | 630 | 260 | 149 | 120 | 142 |
| 17 | 191 | 1,000 | 400 | 445 | 889 | 4,230 | 858 | 493 | 238 | 139 | 117 | 136 |
| 18 | 179 | 889 | 2,500 | 460 | 818 | 4,280 | 807 | 445 | 229 | 133 | 126 | 136 |
| 19 | 206 | 787 | 4,020 | 390 | 828 | 3,320 | 931 | 656 | 238 | 139 | 174 | 130 |
| 20 | 394 | 718 | 2,450 | 304 | 879 | 2,630 | 994 | 1,830 | 219 | 126 | 139 | 142 |
| 21 | 955 | 661 | 1,760 | 394 | 1,080 | 2,090 | 777 | 2,210 | 205 | 135 | 117 | 149 |
| 22 | 689 | 587 | 1,410 | 404 | 889 | 1,700 | 738 | 2,330 | 191 | 183 | 107 | 172 |
| 23 | 923 | 501 | 1,180 | 407 | 807 | 1,450 | 718 | 2,090 | 183 | 293 | 104 | 172 |
| 24 | 1,400 | 445 | 994 | 477 | 828 | 1,280 | 652 | 2,630 | 230 | 345 | 94 | 149 |
| 25 | 984 | 400 | 818 | 2,260 | 797 | 1,110 | 615 | 2,450 | 229 | 331 | 99 | 136 |
| 26 | 718 | 437 | 777 | 4,840 | 738 | 1,000 | 579 | 1,820 | 244 | 282 | 94 | 123 |
| 27 | 689 | 429 | 689 | 2,390 | 689 | 1,020 | 535 | 1,530 | 312 | 216 | 94 | 120 |
| 28 | 4,450 | 445 | 605 | 1,760 | 678 | 889 | 493 | 1,260 | 299 | 293 | 92 | 112 |
| 29 | 10,900 | 501 | 605 | 1,360 | 758 | 485 | 1,020 | 306 | 371 | 371 | 92 | 104 |
| 30 | 5,390 | 509 | 633 | 1,340 | 718 | 477 | 858 | 244 | 319 | 319 | 92 | 102 |
| 31 | 2,840 | 579 | 1,110 | | 889 | 709 | | | 233 | 88 | | |
| Month | | | | | Maximum | Minimum | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 10,900 | 139 | 1,102 | | 1.46 | | 1.68 | |
| November..... | | | | | 2,090 | 400 | 802 | | 1.06 | | 1.18 | |
| December..... | | | | | 4,020 | 250 | 799 | | 1.06 | | 1.22 | |
| January..... | | | | | 4,840 | 304 | 952 | | 1.26 | | 1.45 | |
| February..... | | | | | 1,420 | 615 | 903 | | 1.19 | | 1.24 | |
| March..... | | | | | 5,240 | 437 | 1,443 | | 1.91 | | 2.20 | |
| April..... | | | | | 1,820 | 477 | 941 | | 1.24 | | 1.38 | |
| May..... | | | | | 2,630 | 293 | 913 | | 1.21 | | 1.40 | |
| June..... | | | | | 738 | 183 | 346 | | .458 | | .51 | |
| July..... | | | | | 371 | 126 | 195 | | .258 | | .30 | |
| August..... | | | | | 212 | 88 | 134 | | .177 | | .20 | |
| September..... | | | | | 172 | 89 | 123 | | .163 | | .18 | |
| The year..... | | | | | 10,900 | 88 | 721 | | .954 | | 12.94 | |

Dunning Creek at Yount, Pa.

Location.— Chain gage, lat. 40°03'30", long. 78°28'30", at highway bridge at Yount, Bedford County, 3 miles above mouth and 3½ miles northeast of Bedford. Zero of gage is 1,046.43 feet above mean sea level (preliminary levels of 1935).

Drainage area.— 191 square miles.

Records available.— October 1931 to September 1938 in reports of U. S. Geological Survey; November 1929 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.— Maximum discharge during year, 3,800 second-feet Oct. 29 (gage height, 8.2 feet, from graph based on gage readings), from rating curve extended above 1,700 second-feet; minimum, 11 second-feet Sept. 5 (gage height, 0.48 foot).

1929-38: Maximum discharge (estimated), 17,900 second-feet Mar. 18, 1938 (gage height, 18.08 feet, from floodmark, affected by backwater from Raystown Branch of Juniata River); minimum, 4.9 second-feet July 28, 1930 (gage height, 0.48 foot).

Remarks.— Records fair. Discharge for periods of ice effect, Dec. 8-17, Jan. 19-21, Feb. 1-3, Mar. 1, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|-------|------|-------|-------|---------|-------|---------|-------|------|------|-----------------|-------|-------------------|--|
| 1 | 25 | 368 | 105 | 455 | 140 | 110 | 339 | 105 | 122 | 40 | 34 | 16 | | |
| 2 | 24 | 285 | 100 | 542 | 130 | 129 | 236 | 95 | 118 | 43 | 36 | 14 | | |
| 3 | 22 | 235 | 104 | 443 | 130 | 129 | 289 | 85 | 157 | 39 | 28 | 15 | | |
| 4 | 29 | 189 | 109 | 339 | 157 | 98 | 260 | 85 | 105 | 31 | 24 | 14 | | |
| 5 | 45 | 157 | 109 | 272 | 139 | 114 | 223 | 85 | 95 | 28 | 21 | 12 | | |
| 6 | 81 | 145 | 116 | 223 | 156 | 235 | 189 | 104 | 92 | 26 | 22 | 13 | | |
| 7 | 41 | 128 | 102 | 298 | 540 | 178 | 189 | 75 | 80 | 25 | 50 | 18 | | |
| 8 | 32 | 113 | 90 | 212 | 353 | 200 | 376 | 70 | 95 | 24 | 21 | 25 | | |
| 9 | 30 | 102 | 82 | 151 | 368 | 189 | 542 | 73 | 73 | 24 | 19 | 19 | | |
| 10 | 74 | 95 | 74 | 178 | 475 | 189 | 577 | 70 | 66 | 24 | 23 | 16 | | |
| 11 | 61 | 88 | 68 | 145 | 325 | 168 | 475 | 72 | 73 | 23 | 26 | 18 | | |
| 12 | 48 | 99 | 64 | 133 | 325 | 178 | 443 | 66 | 75 | 24 | 25 | 24 | | |
| 13 | 42 | 503 | 62 | 126 | 312 | 178 | 397 | 61 | 80 | 28 | 22 | 46 | | |
| 14 | 42 | 312 | 60 | 109 | 325 | 519 | 339 | 79 | 67 | 23 | 17 | 34 | | |
| 15 | 38 | 260 | 60 | 100 | 247 | 2,160 | 285 | 195 | 57 | 25 | 17 | 28 | | |
| 16 | 36 | 223 | 65 | 97 | 212 | 1,550 | 235 | 135 | 53 | 22 | 16 | 24 | | |
| 17 | 34 | 212 | 350 | 104 | 200 | 1,160 | 212 | 118 | 52 | 19 | 20 | 23 | | |
| 18 | 34 | 189 | 2,090 | 88 | 212 | 1,020 | 212 | 157 | 50 | 20 | 19 | 24 | | |
| 19 | 100 | 168 | 1,220 | 84 | 212 | 727 | 285 | 391 | 44 | 32 | 16 | 24 | | |
| 20 | 230 | 153 | 650 | 80 | 312 | 577 | 189 | 613 | 43 | 33 | 15 | 24 | | |
| 21 | 168 | 133 | 443 | 80 | 212 | 443 | 223 | 727 | 40 | 81 | 14 | 23 | | |
| 22 | 140 | 118 | 353 | 111 | 200 | 339 | 223 | 650 | 39 | 62 | 14 | 21 | | |
| 23 | 286 | 104 | 286 | 128 | 212 | 298 | 200 | 510 | 38 | 56 | 14 | 22 | | |
| 24 | 190 | 95 | 164 | 174 | 200 | 260 | 178 | 1,170 | 37 | 53 | 14 | 26 | | |
| 25 | 154 | 93 | 200 | 1,780 | 178 | 223 | 168 | 613 | 46 | 40 | 14 | 21 | | |
| 26 | 140 | 100 | 189 | 939 | 178 | 260 | 147 | 443 | 40 | 29 | 13 | 19 | | |
| 27 | 220 | 107 | 151 | 577 | 178 | 223 | 135 | 353 | 90 | 54 | 14 | 18 | | |
| 28 | 1,950 | 126 | 168 | 397 | 141 | 178 | 124 | 272 | 88 | 45 | 14 | 18 | | |
| 29 | 2,770 | 137 | 168 | 325 | 178 | 124 | 212 | 56 | 54 | 13 | 17 | 17 | | |
| 30 | 1,050 | 113 | 153 | 247 | 200 | 114 | 168 | 45 | 33 | 14 | 14 | 18 | | |
| 31 | 542 | 178 | 247 | 368 | 153 | | | 133 | | 28 | 14 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 2,770 | | 22 | | 280 | | 1.47 | | 1.70 | |
| November..... | | | | | 503 | | 88 | | 172 | | 1.901 | | 1.00 | |
| December..... | | | | | 2,090 | | 60 | | 262 | | 1.37 | | 1.58 | |
| January..... | | | | | 1,780 | | 80 | | 296 | | 1.55 | | 1.79 | |
| February..... | | | | | 540 | | 130 | | 242 | | 1.27 | | 1.32 | |
| March..... | | | | | 2,160 | | 98 | | 412 | | 2.16 | | 2.49 | |
| April..... | | | | | 577 | | 114 | | 264 | | 1.38 | | 1.54 | |
| May..... | | | | | 1,170 | | 61 | | 258 | | 1.35 | | 1.56 | |
| June..... | | | | | 157 | | 37 | | 70.5 | | .369 | | .41 | |
| July..... | | | | | 81 | | 19 | | 34.5 | | .181 | | .21 | |
| August..... | | | | | 50 | | 13 | | 20.1 | | .105 | | .12 | |
| September..... | | | | | 46 | | 12 | | 21.1 | | .110 | | .12 | |
| The year..... | | | | | 2,770 | | 12 | | 195 | | 1.02 | | 13.84 | |

Brush Creek at Gapsville, Pa.

Location.— Water-stage recorder, lat. 39°57'20", long. 78°15'15", at highway bridge three-quarters of a mile northwest of Gapsville, Bedford County, and 5½ miles above confluence with Shaffer Creek. Zero of gage is 1,122.39 feet above mean sea level (general adjustment of 1929).

Drainage area.— 36.8 square miles.

Records available.— October 1931 to September 1938 in reports of U. S. Geological Survey; November 1929 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.— Maximum discharge during year, 912 second-feet Oct. 28 (gage height, 4.74 feet); minimum, 0.6 second-foot July 19 (gage height, 1.10 feet); minimum daily discharge, 1.0 second-foot July 9.

1929-38: Maximum discharge, 6,870 second-feet Mar. 17, 1936 (gage height, 9.81 feet), from rating curve extended above 2,600 second-feet; minimum, 0.2 second-foot Aug. 28, Sept. 12, 20-23, 1932.

Remarks.— Records fair except those for period of weir construction, Aug. 17 to Sept. 2, which are poor and were determined by comparison with records for stations in adjacent drainage areas. Discharge for periods of ice effect, Jan. 15, 27-29, Feb. 2, 3, Mar. 1, determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|------|------|------|------|---------|---------|------|-----------------|-------------------|------|------|-------|
| 1 | 1.7 | 114 | 22 | 36 | 50 | 30 | 49 | 23 | 57 | 4.0 | 12 | 11 |
| 2 | 1.4 | 99 | 19 | 37 | 42 | 34 | 44 | 20 | 55 | 4.9 | 13 | 5.0 |
| 3 | 1.3 | 86 | 18 | 32 | 36 | 33 | 43 | 18 | 69 | 3.8 | 8.6 | 3.6 |
| 4 | 2.7 | 70 | 18 | 30 | 39 | 28 | 41 | 18 | 48 | 2.4 | 7.0 | 3.0 |
| 5 | 10 | 59 | 18 | 29 | 34 | 27 | 39 | 20 | 42 | 2.4 | 7.4 | 3.2 |
| 6 | 12 | 52 | 30 | 28 | 36 | 29 | 35 | 18 | 41 | 2.0 | 5.9 | 3.1 |
| 7 | 5.0 | 44 | 17 | 45 | 57 | 24 | 32 | 16 | 35 | 1.8 | 5.8 | 4.4 |
| 8 | 3.7 | 37 | 18 | 38 | 40 | 21 | 40 | 15 | 32 | 1.3 | 5.5 | 9.4 |
| 9 | 3.5 | 34 | 14 | 33 | 37 | 19 | 56 | 15 | 27 | 1.0 | 4.3 | 3.6 |
| 10 | 18 | 28 | 13 | 33 | 41 | 19 | 56 | 17 | 24 | 1.4 | 13 | 4.0 |
| 11 | 15 | 24 | 12 | 33 | 36 | 20 | 51 | 15 | 20 | 1.2 | 18 | 3.1 |
| 12 | 9.8 | 26 | 12 | 33 | 34 | 21 | 52 | 13 | 19 | 1.3 | 9.0 | 4.4 |
| 13 | 7.2 | 124 | 11 | 33 | 42 | 19 | 52 | 12 | 19 | 10 | 6.7 | 6.1 |
| 14 | 6.2 | 109 | 10 | 31 | 55 | 56 | 52 | 19 | 17 | 8.2 | 5.5 | 5.8 |
| 15 | 5.3 | 97 | 11 | 29 | 50 | 165 | 49 | 36 | 15 | 7.4 | 4.5 | 5.0 |
| 16 | 4.9 | 87 | 17 | 27 | 44 | 155 | 46 | 25 | 13 | 5.8 | 3.6 | 4.3 |
| 17 | 4.6 | 78 | 32 | 25 | 43 | 155 | 41 | 21 | 13 | 4.6 | 30 | 8.8 |
| 18 | 4.5 | 68 | 114 | 22 | 45 | 152 | 45 | 26 | 11 | 4.6 | 23 | 12 |
| 19 | 35 | 59 | 93 | 20 | 49 | 133 | 52 | 63 | 10 | 3.6 | 15 | 8.0 |
| 20 | 96 | 54 | 79 | 21 | 64 | 122 | 42 | 134 | 9.0 | 1.3 | 12 | 14 |
| 21 | 79 | 47 | 74 | 18 | 58 | 106 | 37 | 185 | 7.8 | 3.3 | 8.5 | 22 |
| 22 | 62 | 39 | 69 | 19 | 52 | 93 | 35 | 198 | 7.0 | 32 | 6.0 | 12 |
| 23 | 188 | 32 | 62 | 20 | 52 | 84 | 32 | 159 | 7.0 | 23 | 4.5 | 10 |
| 24 | 140 | 31 | 50 | 21 | 54 | 78 | 31 | 209 | 7.8 | 19 | 4.0 | 8.1 |
| 25 | 107 | 28 | 48 | 139 | 51 | 68 | 29 | 152 | 6.4 | 13 | 3.0 | 6.1 |
| 26 | 90 | 27 | 45 | 112 | 49 | 64 | 27 | 133 | 7.4 | 9.0 | 2.5 | 5.7 |
| 27 | 109 | 27 | 36 | 90 | 48 | 57 | 26 | 122 | 12 | 7.8 | 2.2 | 3.9 |
| 28 | 662 | 29 | 35 | 70 | 37 | 47 | 25 | 103 | 7.8 | 22 | 2.2 | 4.0 |
| 29 | 430 | 30 | 34 | 60 | | 40 | 24 | 88 | 5.8 | 22 | 2.0 | 3.7 |
| 30 | 234 | 24 | 32 | 68 | | 43 | 24 | 76 | 4.6 | 18 | 2.0 | 5.3 |
| 31 | 154 | | 31 | 63 | | 55 | | 66 | | 11 | 3.0 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | |
| October | | | | | 662 | 1.3 | 80.7 | 2.19 | 2.52 | | | |
| November | | | | | 124 | 24 | 55.4 | 1.51 | 1.68 | | | |
| December | | | | | 114 | 10 | 35.2 | .957 | 1.10 | | | |
| January | | | | | 139 | 18 | 41.8 | 1.14 | 1.31 | | | |
| February | | | | | 64 | 34 | 45.5 | 1.24 | 1.29 | | | |
| March | | | | | 165 | 19 | 64.4 | 1.75 | 2.02 | | | |
| April | | | | | 56 | 24 | 40.2 | 1.09 | 1.22 | | | |
| May | | | | | 209 | 12 | 65.6 | 1.78 | 2.05 | | | |
| June | | | | | 69 | 4.6 | 21.7 | .590 | .66 | | | |
| July | | | | | 32 | 1.0 | 8.16 | .222 | .26 | | | |
| August | | | | | 30 | 2.0 | 8.05 | .219 | .25 | | | |
| September | | | | | 22 | 3.0 | 6.75 | .183 | .20 | | | |
| The year | | | | | 662 | 1.0 | 39.5 | 1.07 | 14.56 | | | |

SUSQUEHANNA RIVER BASIN

Great Trough Creek near Marklesburg, Pa.

Location. - Water-stage recorder and concrete control, lat. 40°21'00", long. 78°07'50", at highway bridge half a mile above mouth and 3 miles southeast of Marklesburg, Huntington County. Zero of gage is 714.48 feet above mean sea level.

Drainage area.- 84.6 square miles.

Drainage area.— 84.6 square miles.
Records available.— October 1931 to September 1938 in reports of U. S. Geological Survey; January 1930 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.—Maximum discharge during year, 1,040 second-feet May 24 (gage height, 3.77 feet); minimum, 2.1 second-feet Aug. 30 (gage height, 0.54 foot); minimum daily discharge, 2.6 second-feet Aug. 30, Sept. 6.

1930-38: Maximum discharge, 9,580 second-foot Mar. 17, 1936 (gage height, 8.46 feet), from rating curve extended above 600 second-foot; minimum, 0.6 second-foot Sept. 22, 23, 1932, Sept. 3, 1934.

Remarks. - Records fair. Discharge for periods of ice effect, Dec. 3-18, Jan. 14-24, Jan. 29 to Feb. 6, determined from gage heights, weather records, two discharge measurements, and by comparison with records for stations in adjacent drainage areas. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|------|------|------|------|---------|------|---------|-----|------|------|-----------------|-------|-------------------|--|
| 1 | 7.4 | 136 | 54 | 108 | 60 | 67 | 115 | 62 | 85 | 23 | 10.3 | 3.6 | | |
| 2 | 6.2 | 110 | 54 | 136 | 40 | 74 | 100 | 58 | 85 | 24 | 12.5 | 4.2 | | |
| 3 | 6.0 | 92 | 50 | 110 | 40 | 66 | 96 | 52 | 124 | 23 | 11.7 | 4.0 | | |
| 4 | 6.4 | 78 | 45 | 96 | 45 | 60 | 92 | 54 | 101 | 20 | 9.0 | 3.2 | | |
| 5 | 9.7 | 69 | 40 | 92 | 39 | 67 | 87 | 52 | 85 | 16.8 | 17.8 | 2.7 | | |
| 6 | 15.5 | 61 | 35 | 85 | 50 | 74 | 81 | 51 | 78 | 17.4 | 16.6 | 2.2 | | |
| 7 | 15.2 | 56 | 31 | 108 | 179 | 64 | 78 | 49 | 66 | 13.7 | 10.3 | 4.3 | | |
| 8 | 9.7 | 51 | 28 | 107 | 122 | 65 | 84 | 42 | 66 | 12.8 | 8.4 | 7.6 | | |
| 9 | 8.2 | 47 | 26 | 80 | 103 | 57 | 111 | 46 | 55 | 15.7 | 7.2 | 10.0 | | |
| 10 | 10.6 | 44 | 24 | 68 | 115 | 55 | 136 | 49 | 52 | 21 | 7.9 | 6.0 | | |
| 11 | 15.5 | 41 | 23 | 76 | 103 | 55 | 112 | 46 | 45 | 16.6 | 41 | 5.8 | | |
| 12 | 12.2 | 40 | 22 | 72 | 94 | 62 | 103 | 44 | 53 | 27 | 22 | 4.4 | | |
| 13 | 10.3 | 354 | 21 | 71 | 100 | 61 | 100 | 40 | 67 | 26 | 12.5 | 12.8 | | |
| 14 | 10.3 | 351 | 21 | 66 | 125 | 103 | 94 | 43 | 55 | 19.0 | 9.0 | 10.6 | | |
| 15 | 11.1 | 219 | 21 | 62 | 112 | 390 | 89 | 64 | 42 | 14.9 | 7.7 | 7.9 | | |
| 16 | 9.2 | 154 | 28 | 58 | 98 | 410 | 87 | 56 | 39 | 14.9 | 6.2 | 6.7 | | |
| 17 | 8.2 | 125 | 80 | 54 | 93 | 405 | 81 | 47 | 38 | 11.4 | 6.2 | 8.2 | | |
| 18 | 7.9 | 107 | 250 | 50 | 89 | 420 | 83 | 46 | 34 | 11.7 | 5.0 | 9.0 | | |
| 19 | 12.0 | 92 | 261 | 47 | 94 | 332 | 115 | 66 | 30 | 12.8 | 11.0 | 10.6 | | |
| 20 | 47 | 83 | 166 | 45 | 113 | 260 | 100 | 114 | 29 | 14.9 | 7.2 | 10.3 | | |
| 21 | 54 | 74 | 136 | 45 | 117 | 208 | 103 | 115 | 26 | 13.4 | 5.0 | 31 | | |
| 22 | 40 | 64 | 123 | 46 | 98 | 173 | 94 | 120 | 25 | 14.3 | 4.2 | 21 | | |
| 23 | 196 | 56 | 110 | 50 | 96 | 148 | 92 | 114 | 25 | 17.7 | 4.0 | 12.8 | | |
| 24 | 222 | 57 | 92 | 60 | 96 | 139 | 85 | 662 | 25 | 17.1 | 3.6 | 11.4 | | |
| 25 | 112 | 78 | 85 | 310 | 89 | 123 | 81 | 366 | 22 | 17.1 | 3.0 | 8.7 | | |
| 26 | 78 | 54 | 80 | 291 | 80 | 123 | 76 | 239 | 27 | 14.0 | 3.0 | 6.4 | | |
| 27 | 97 | 52 | 71 | 152 | 80 | 123 | 72 | 216 | 78 | 14.0 | 2.7 | 5.0 | | |
| 28 | 578 | 61 | 69 | 117 | 76 | 93 | 67 | 166 | 56 | 12.3 | 2.8 | 4.8 | | |
| 29 | 734 | 74 | 72 | 100 | 92 | 69 | 69 | 136 | 34 | 16.8 | 3.0 | 4.6 | | |
| 30 | 378 | 66 | 67 | 100 | 89 | 67 | 115 | 25 | 25 | 13.4 | 2.6 | 4.6 | | |
| 31 | 202 | | 69 | 85 | | 103 | | 98 | | 12.8 | 2.7 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 734 | | 6.0 | | 94.6 | | 1.12 | | 1.29 | |
| November..... | | | | | 354 | | 40 | | 98.2 | | 1.16 | | 1.29 | |
| December..... | | | | | 261 | | 21 | | 72.7 | | .859 | | .99 | |
| January..... | | | | | 310 | | 45 | | 95.1 | | 1.12 | | 1.29 | |
| February..... | | | | | 179 | | 39 | | 90.9 | | 1.07 | | 1.11 | |
| March..... | | | | | 420 | | 55 | | 147 | | 1.74 | | 2.01 | |
| April..... | | | | | 136 | | 67 | | 91.7 | | 1.08 | | 1.20 | |
| May..... | | | | | 662 | | 40 | | 111 | | 1.31 | | 1.51 | |
| June..... | | | | | 124 | | 22 | | 52.4 | | .619 | | .69 | |
| July..... | | | | | 27 | | 11.4 | | 16.7 | | .197 | | .23 | |
| August..... | | | | | 41 | | 2.6 | | 8.91 | | .105 | | .12 | |
| September..... | | | | | 31 | | 2.6 | | 8.09 | | .096 | | .11 | |
| The year..... | | | | | 734 | | 2.6 | | 73.9 | | .874 | | 11.84 | |

Aughwick Creek near Orbisonia, Pa.

Location.- Chain gage, lat. 40°12'35", long. 77°55'30", at highway bridge 600 feet above East Broad Top Railroad bridge, 650 feet above mouth of Three Springs Creek, and 2½ miles southwest of Orbisonia, Huntingdon County. Zero of gage is 819.51 feet (revised) above mean sea level (prelliminary levels of 1929).

Drainage area.- 174 square miles.

Records available.- October 1931 to August 1938 in reports of U. S. Geological Survey; May 1915 to February 1916, January 1930 to August 1938 in reports of Pennsylvania Department of Forests and Waters (discontinued).

Extremes.—Maximum discharge during period, 4,070 second-feet Oct. 28 (gage height, 9.1 feet, from graph based on gage readings); minimum, 5.0 second-feet Aug. 27 (gage height, 1.46 feet).

1915-16, 1930-38: Maximum discharge, 18,900 second-feet Mar. 18, 1936 (gage height, 19.16 feet, from floodmark), from rating curve extended above 11,500 second-feet; minimum, 3.8 second-feet Sept. 25-27, 1932.

Maximum stage known, 20.5 feet, from floodmark, June 1, 1889 (discharge, about 21,500 second-feet).

Remarks.- Records fair. Discharge for periods of ice effect, Dec. 8-17, Jan. 10-24, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Some regulation at low stages from operation of gristmills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|------|------|------|------|-------|------|-----|------|------|------|-------|
| 1 | 18 | 341 | 97 | 158 | 177 | 120 | 223 | 84 | 97 | 19 | 24 | |
| 2 | 15 | 273 | 82 | 223 | 156 | 145 | 188 | 76 | 94 | 18 | 28 | |
| 3 | 14 | 223 | 62 | 200 | 166 | 129 | 177 | 73 | 131 | 20 | 28 | |
| 4 | 16 | 177 | 90 | 177 | 145 | 93 | 166 | 69 | 94 | 17 | 20 | |
| 5 | 20 | 156 | 104 | 177 | 156 | 123 | 156 | 66 | 75 | 15 | 16 | |
| 6 | 39 | 139 | 96 | 143 | 123 | 135 | 139 | 63 | 68 | 13 | 18 | |
| 7 | 42 | 120 | 85 | 211 | 286 | 112 | 133 | 59 | 62 | 14 | 14 | |
| 8 | 28 | 109 | 75 | 200 | 200 | 97 | 143 | 56 | 56 | 10 | 12 | |
| 9 | 20 | 101 | 68 | 116 | 177 | 86 | 211 | 57 | 50 | 9.6 | 12 | |
| 10 | 26 | 88 | 64 | 120 | 188 | 91 | 235 | 65 | 43 | 9.6 | 12 | |
| 11 | 53 | 82 | 60 | 110 | 166 | 88 | 188 | 59 | 41 | 10 | 11 | |
| 12 | 42 | 76 | 58 | 100 | 156 | 116 | 177 | 54 | 53 | 10 | 14 | |
| 13 | 33 | 912 | 56 | 93 | 188 | 109 | 166 | 49 | 48 | 10 | 14 | |
| 14 | 27 | 780 | 55 | 86 | 211 | 204 | 156 | 52 | 47 | 10 | 11 | |
| 15 | 24 | 437 | 55 | 82 | 188 | 1,330 | 156 | 94 | 36 | 12 | 8.0 | |
| 16 | 22 | 327 | 60 | 78 | 156 | 1,180 | 145 | 85 | 32 | 12 | 7.0 | |
| 17 | 21 | 260 | 100 | 80 | 135 | 1,030 | 133 | 65 | 30 | 10 | 9.6 | |
| 18 | 24 | 211 | 741 | 74 | 166 | 980 | 139 | 59 | 30 | 10 | 9.6 | |
| 19 | 50 | 177 | 630 | 68 | 166 | 710 | 188 | 92 | 34 | 8.8 | 20 | |
| 20 | 259 | 166 | 403 | 66 | 313 | 550 | 143 | 177 | 25 | 14 | 14 | |
| 21 | 236 | 143 | 313 | 66 | 313 | 420 | 123 | 248 | 24 | 14 | 13 | |
| 22 | 156 | 123 | 260 | 70 | 273 | 341 | 123 | 200 | 24 | 22 | 8.8 | |
| 23 | 812 | 107 | 223 | 80 | 260 | 300 | 111 | 166 | 22 | 58 | 6.5 | |
| 24 | 720 | 73 | 188 | 110 | 235 | 273 | 101 | 652 | 22 | 57 | 5.5 | |
| 25 | 327 | 68 | 166 | 735 | 211 | 223 | 101 | 476 | 20 | 91 | 5.5 | |
| 26 | 211 | 104 | 156 | 570 | 188 | 235 | 94 | 327 | 20 | 38 | 5.5 | |
| 27 | 261 | 99 | 131 | 341 | 188 | 223 | 88 | 300 | 24 | 26 | 5.0 | |
| 28 | 2,390 | 111 | 131 | 286 | 177 | 177 | 85 | 223 | 28 | 26 | | |
| 29 | 1,910 | 156 | 139 | 300 | | 166 | 85 | 177 | 26 | 26 | | |
| 30 | 822 | 114 | 121 | 273 | | 156 | 82 | 141 | 22 | 28 | | |
| 31 | 455 | | 120 | 248 | | 211 | | 116 | | 36 | | |

| Month | | | | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|--|--|--|---------|---------|------|-----------------|-------------------|
| October..... | | | | 2,390 | 14 | 293 | 1.68 | 1.94 |
| November..... | | | | 912 | 68 | 208 | 1.20 | 1.34 |
| December..... | | | | 741 | 55 | 161 | .925 | 1.07 |
| January..... | | | | 735 | 66 | 182 | 1.05 | 1.21 |
| February..... | | | | 313 | 123 | 195 | 1.12 | 1.17 |
| March..... | | | | 1,330 | 88 | 328 | 1.89 | 2.18 |
| April..... | | | | 235 | 82 | 145 | .833 | .93 |
| May..... | | | | 652 | 49 | 145 | .833 | .96 |
| June..... | | | | 131 | 20 | 45.9 | .264 | .29 |
| July..... | | | | 91 | 8.8 | 21.7 | .125 | .14 |
| August... 1-27 | | | | 28 | 5.0 | 13.0 | .075 | .08 |
| September..... | | | | | | | | |
| The year..... | | | | | | | | |

Aughwick Creek near Three Springs, Pa.

Location.— Water-stage recorder, lat. 40°12'45", long. 77°55'30", at bridge on State Highway 377, 300 feet above East Broad Top Railroad bridge, 350 feet above mouth of Three Springs Creek, and 3½ miles northeast of Three Springs, Huntingdon County. Zero of gage is 618.65 feet above mean sea level (preliminary levels of 1929).

Drainage area.— 205 square miles.

Records available.— May to September 1938.

Extremes.— Maximum discharge during period, 1,390 second-feet May 24 (gage height, 5.86 feet), from rating curve extended above 630 second-feet; minimum, 4.3 second-feet Aug. 31 (gage height, 1.79 feet).

Maximum stage known, about 19.3 feet June 1, 1889 (discharge not determined)

Remarks.— Records fair. Records include discharge of Three Springs Creek. Some regulation from operation of gristmills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|------|---------|------|------|------|-----------------|-------|-------------------|------|------|-------|
| 1 | | | | | | | | | 123 | 21 | 27 | 6.2 |
| 2 | | | | | | | | | 119 | 22 | 29 | 6.2 |
| 3 | | | | | | | | | 166 | 22 | 29 | 6.7 |
| 4 | | | | | | | | | 122 | 20 | 24 | 7.3 |
| 5 | | | | | | | | | 95 | 16 | 20 | 6.5 |
| 6 | | | | | | | | | 86 | 14 | 18 | 5.9 |
| 7 | | | | | | | | | 79 | 15 | 15 | 13 |
| 8 | | | | | | | | | 72 | 15 | 13 | 17 |
| 9 | | | | | | | | | 64 | 11 | 13 | 16 |
| 10 | | | | | | | | | 56 | 12 | 12 | 13 |
| 11 | | | | | | | | | 54 | 16 | 13 | 9.8 |
| 12 | | | | | | | | | 61 | 19 | 14 | 11 |
| 13 | | | | | | | | | 64 | 13 | 13 | 11 |
| 14 | | | | | | | | | 61 | 13 | 12 | 12 |
| 15 | | | | | | | | | 47 | 14 | 9.8 | 14 |
| 16 | | | | | | | | | 40 | 14 | 8.4 | 14 |
| 17 | | | | | | | | | 38 | 13 | 11 | 19 |
| 18 | | | | | | | | | 37 | 13 | 13 | 23 |
| 19 | | | | | | | | | 34 | 13 | 19 | 23 |
| 20 | | | | | | | | | 28 | 17 | 14 | 39 |
| 21 | | | | | | | | 254 | 28 | 18 | 13 | 84 |
| 22 | | | | | | | | 203 | 24 | 28 | 10 | 53 |
| 23 | | | | | | | | 207 | 24 | 66 | 8.4 | 31 |
| 24 | | | | | | | | 1,000 | 25 | 74 | 7.3 | 24 |
| 25 | | | | | | | | 534 | 22 | 86 | 6.7 | 19 |
| 26 | | | | | | | | 373 | 23 | 49 | 5.9 | 17 |
| 27 | | | | | | | | 342 | 32 | 29 | 5.3 | 12 |
| 28 | | | | | | | | 260 | 33 | 30 | 5.1 | 13 |
| 29 | | | | | | | | 208 | 31 | 29 | 5.1 | 11 |
| 30 | | | | | | | | 170 | 24 | 33 | 4.5 | 12 |
| 31 | | | | | | | | 143 | | 42 | 5.4 | |
| Month | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | | | |
| October | | | | | | | | | | | | |
| November | | | | | | | | | | | | |
| December | | | | | | | | | | | | |
| January | | | | | | | | | | | | |
| February | | | | | | | | | | | | |
| March | | | | | | | | | | | | |
| April | | | | | | | | | | | | |
| May | 1,000 | | 143 | | 336 | | 1.64 | | 0.67 | | | |
| June | 166 | | 22 | | 57.1 | | .279 | | .31 | | | |
| July | 86 | | 11 | | 25.7 | | .125 | | .14 | | | |
| August | 29 | | 4.5 | | 13.0 | | .063 | | .07 | | | |
| September | 34 | | 5.9 | | 18.3 | | .089 | | .10 | | | |
| The year | | | | | | | | | | | | |

Tuscarora Creek near Port Royal, Pa.

Location.— Water-stage recorder, lat. 40°30'55", long. 77°25'10", at highway bridge 2 miles southwest of Port Royal, Juniata County, and 3¼ miles above mouth. Zero of gage is 419.80 feet above mean sea level (preliminary levels of 1925).

Drainage area.— 214 square miles.

Records available.— October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; August 1911 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 27 years, 283 second-feet.

Extremes.— Maximum discharge during year, 4,500 second-feet Nov. 13 (gage height, 10.06 feet); minimum, 7.7 second-feet Aug. 6 (gage height, 2.32 feet); minimum daily discharge, 9.8 second-feet Sept. 11.

1911-38: Maximum discharge (estimated), 14,400 second-feet Mar. 18, 1936; maximum gage height, 21.60 feet, from floodmark, affected by backwater from Juniata River, Mar. 19, 1936; minimum discharge, 1 second-foot Aug. 31, Sept. 4-6, 14, 18, 1913, Sept. 21, 1914.

Maximum flood known prior to 1911, 20.5 feet June 1, 1889 (affected by backwater, discharge not determined).

Remarks.— Records good except those for periods of ice effect, Dec. 8-18, Jan. 11-24, Jan. 28 to Feb. 3, which are fair and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Regulation from operation of gristmills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|-------|---------|------|------|-------|-----------------|-------|-------------------|------|------|-------|
| 1 | 27 | 367 | 151 | 279 | 150 | 180 | 339 | 114 | 155 | 40 | 31 | 11 |
| 2 | 24 | 302 | 133 | 396 | 140 | 235 | 282 | 108 | 142 | 43 | 25 | 15 |
| 3 | 15 | 260 | 112 | 319 | 160 | 207 | 263 | 103 | 165 | 37 | 24 | 16 |
| 4 | 26 | 218 | 108 | 275 | 180 | 164 | 238 | 142 | 146 | 42 | 24 | 13 |
| 5 | 25 | 195 | 142 | 250 | 160 | 180 | 218 | 154 | 124 | 33 | 21 | 12 |
| 6 | 36 | 178 | 137 | 218 | 169 | 204 | 201 | 114 | 112 | 30 | 18 | 13 |
| 7 | 42 | 160 | 116 | 308 | 571 | 182 | 193 | 97 | 101 | 26 | 15 | 12 |
| 8 | 33 | 148 | 110 | 292 | 364 | 155 | 198 | 88 | 90 | 26 | 77 | 11 |
| 9 | 26 | 157 | 100 | 180 | 302 | 144 | 282 | 92 | 82 | 26 | 42 | 11 |
| 10 | 22 | 124 | 92 | 146 | 332 | 142 | 312 | 97 | 76 | 17 | 27 | 12 |
| 11 | 38 | 114 | 85 | 160 | 279 | 135 | 241 | 90 | 74 | 27 | 94 | 9.8 |
| 12 | 42 | 115 | 80 | 150 | 244 | 162 | 215 | 82 | 78 | 27 | 112 | 13 |
| 13 | 34 | 2,830 | 76 | 140 | 250 | 166 | 207 | 77 | 120 | 28 | 47 | 17 |
| 14 | 28 | 1,640 | 74 | 130 | 305 | 258 | 193 | 78 | 94 | 26 | 24 | 19 |
| 15 | 27 | 795 | 74 | 120 | 260 | 979 | 185 | 111 | 70 | 26 | 25 | 28 |
| 16 | 24 | 536 | 80 | 110 | 215 | 1,100 | 175 | 124 | 61 | 25 | 23 | 28 |
| 17 | 17 | 428 | 120 | 110 | 193 | 1,100 | 165 | 108 | 56 | 17 | 21 | 24 |
| 18 | 30 | 360 | 600 | 105 | 215 | 1,020 | 168 | 83 | 58 | 23 | 60 | 22 |
| 19 | 55 | 302 | 716 | 100 | 243 | 779 | 235 | 87 | 48 | 28 | 105 | 31 |
| 20 | 247 | 282 | 451 | 100 | 721 | 618 | 193 | 113 | 50 | 25 | 43 | 36 |
| 21 | 215 | 241 | 346 | 100 | 690 | 504 | 182 | 146 | 45 | 29 | 23 | 155 |
| 22 | 133 | 209 | 282 | 110 | 540 | 421 | 165 | 110 | 40 | 38 | 26 | 104 |
| 23 | 554 | 190 | 250 | 130 | 458 | 374 | 160 | 115 | 39 | 43 | 20 | 60 |
| 24 | 600 | 168 | 209 | 160 | 406 | 353 | 142 | 2,080 | 38 | 38 | 16 | 45 |
| 25 | 306 | 155 | 190 | 637 | 339 | 308 | 137 | 856 | 37 | 45 | 16 | 36 |
| 26 | 212 | 160 | 182 | 571 | 285 | 298 | 133 | 489 | 36 | 32 | 14 | 31 |
| 27 | 391 | 158 | 160 | 302 | 279 | 295 | 126 | 403 | 115 | 27 | 12 | 24 |
| 28 | 2,400 | 178 | 155 | 210 | 239 | 247 | 122 | 312 | 101 | 23 | 10 | 20 |
| 29 | 2,040 | 215 | 168 | 200 | | 224 | 120 | 247 | 61 | 22 | 11 | 18 |
| 30 | 853 | 180 | 153 | 260 | | 224 | 118 | 204 | 46 | 29 | 12 | 19 |
| 31 | 513 | | 151 | 180 | | 312 | | 175 | | 40 | 10 | |
| Month | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | | | |
| October | 2,400 | | 15 | | 291 | | 1.36 | | 1.57 | | | |
| November | 2,830 | | 114 | | 378 | | 1.77 | | 1.98 | | | |
| December | 716 | | 74 | | 187 | | .874 | | 1.01 | | | |
| January | 637 | | 100 | | 218 | | 1.02 | | 1.18 | | | |
| February | 721 | | 140 | | 310 | | 1.45 | | 1.51 | | | |
| March | 1,100 | | 135 | | 376 | | 1.76 | | 2.03 | | | |
| April | 339 | | 118 | | 197 | | .921 | | 1.03 | | | |
| May | 2,080 | | 77 | | 232 | | 1.08 | | 1.24 | | | |
| June | 165 | | 36 | | 82.0 | | .383 | | .43 | | | |
| July | 45 | | 17 | | 30.2 | | .141 | | .16 | | | |
| August | 112 | | 10 | | 33.2 | | .155 | | .18 | | | |
| September | 155 | | 9.8 | | 28.9 | | .135 | | .15 | | | |
| The year | 2,830 | | 9.8 | | 196 | | .916 | | 12.47 | | | |

Cocolamus Creek near Millerstown, Pa.

Location.- Water-stage recorder and concrete control, lat. 40°33'55", long. 77°07'05", at highway bridge 2.3 miles northeast of Millerstown, Perry County, and 3 miles above mouth. Zero of gage is 425.50 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.- 57.2 square miles.

Records available.- October 1931 to September 1938 in reports of U. S. Geological Survey; February 1930 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, 4,040 second-feet Nov. 13 (gage height, 7.78 feet); minimum, 2.2 second-feet Sept. 16 (gage height, 1.02 feet); minimum daily discharge, 3.0 second-feet Sept. 12.

1930-38: Maximum discharge, 4,560 second-feet Aug. 24, 1933 (gage height, 8.20 feet); minimum, 0.7 second-foot Aug. 15, 1932 (gage height, 0.81 foot); minimum daily discharge, 1.3 second-feet Aug. 28, 1932.

Remarks. - Records fair. Discharge for periods of ice effect, Dec. 3-18, Jan. 10-24, 28-30, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Some regulation at low stages from operation of gristmill upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|------|-------|------|------|---------|------|---------|-----|------|------|-----------------|-------|-------------------|--|
| 1 | 6.3 | 109 | 47 | 165 | 59 | 71 | 62 | 36 | 40 | 7.7 | 10 | 6.0 | | |
| 2 | 5.4 | 88 | 44 | 188 | 63 | 64 | 51 | 32 | 42 | 12 | 12 | 6.0 | | |
| 3 | 6.2 | 78 | 42 | 140 | 58 | 66 | 49 | 30 | 54 | 11 | 10 | 4.3 | | |
| 4 | 5.0 | 63 | 40 | 112 | 62 | 54 | 45 | 34 | 38 | 7.5 | 8.1 | 4.6 | | |
| 5 | 5.6 | 54 | 40 | 98 | 51 | 56 | 44 | 31 | 32 | 6.6 | 9.5 | 3.6 | | |
| 6 | 10 | 50 | 41 | 82 | 58 | 66 | 42 | 28 | 30 | 6.5 | 9.5 | 3.1 | | |
| 7 | 8.6 | 43 | 38 | 116 | 287 | 56 | 42 | 24 | 26 | 5.8 | 23 | 5.8 | | |
| 8 | 7.2 | 38 | 36 | 89 | 143 | 51 | 51 | 21 | 21 | 5.8 | 23 | 6.8 | | |
| 9 | 6.0 | 36 | 33 | 68 | 128 | 49 | 102 | 24 | 21 | 5.3 | 21 | 4.6 | | |
| 10 | 8.4 | 31 | 31 | 60 | 130 | 51 | 114 | 25 | 18 | 13 | 13 | 3.7 | | |
| 11 | 9.1 | 29 | 29 | 55 | 123 | 50 | 89 | 21 | 15 | 8.4 | 15 | 3.6 | | |
| 12 | 8.3 | 27 | 27 | 50 | 89 | 58 | 78 | 20 | 18 | 74 | 13 | 3.0 | | |
| 13 | 7.4 | 2,050 | 26 | 47 | 87 | 70 | 70 | 18 | 18 | 14 | 8.2 | 4.8 | | |
| 14 | 7.6 | 737 | 25 | 45 | 96 | 190 | 62 | 19 | 14 | 12 | 6.6 | 5.4 | | |
| 15 | 6.0 | 303 | 25 | 41 | 78 | 610 | 58 | 31 | 12 | 11 | 5.0 | 12 | | |
| 16 | 6.8 | 191 | 30 | 38 | 66 | 495 | 53 | 24 | 12 | 8.2 | 4.9 | 8.5 | | |
| 17 | 6.9 | 143 | 60 | 36 | 63 | 458 | 47 | 18 | 12 | 7.6 | 18 | 5.8 | | |
| 18 | 5.8 | 109 | 300 | 33 | 66 | 371 | 51 | 15 | 12 | 6.6 | 302 | 7.4 | | |
| 19 | 75 | 93 | 275 | 31 | 78 | 258 | 70 | 19 | 10 | 8.9 | 37 | 5.4 | | |
| 20 | 194 | 87 | 169 | 29 | 221 | 194 | 53 | 20 | 8.4 | 8.6 | 20 | 18 | | |
| 21 | 114 | 72 | 128 | 29 | 171 | 148 | 49 | 21 | 9.4 | 37 | 15 | 42 | | |
| 22 | 67 | 62 | 107 | 31 | 146 | 121 | 53 | 15 | 7.8 | 177 | 12 | 15 | | |
| 23 | 540 | 54 | 93 | 36 | 130 | 105 | 49 | 37 | 8.4 | 156 | 11 | 15 | | |
| 24 | 271 | 49 | 76 | 55 | 118 | 96 | 44 | 394 | 9.6 | 105 | 9.2 | 10 | | |
| 25 | 142 | 47 | 72 | 412 | 100 | 80 | 44 | 148 | 8.6 | 38 | 6.6 | 8.6 | | |
| 26 | 100 | 47 | 66 | 262 | 85 | 80 | 42 | 100 | 12 | 25 | 6.6 | 7.6 | | |
| 27 | 114 | 45 | 56 | 169 | 82 | 70 | 38 | 87 | 18 | 19 | 6.0 | 7.6 | | |
| 28 | 574 | 56 | 54 | 130 | 69 | 60 | 37 | 83 | 18 | 15 | 5.2 | 6.5 | | |
| 29 | 452 | 72 | 54 | 100 | | 54 | 38 | 72 | 12 | 14 | 4.5 | 5.6 | | |
| 30 | 241 | 53 | 51 | 86 | | 53 | 37 | 58 | 8.2 | 14 | 4.6 | 6.9 | | |
| 31 | 150 | | 54 | 80 | | 60 | | 47 | | 12 | 5.8 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 574 | | 5.0 | | 102 | | 1.78 | | 2.06 | |
| November..... | | | | | 2,050 | | 27 | | 164 | | 2.87 | | 3.20 | |
| December..... | | | | | 300 | | 25 | | 70.0 | | 1.22 | | 1.41 | |
| January..... | | | | | 412 | | 29 | | 94.0 | | 1.64 | | 1.89 | |
| February..... | | | | | 287 | | 51 | | 104 | | 1.82 | | 1.90 | |
| March..... | | | | | 610 | | 49 | | 138 | | 2.41 | | 2.78 | |
| April..... | | | | | 114 | | 37 | | 55.5 | | .970 | | 1.08 | |
| May..... | | | | | 394 | | 15 | | 50.1 | | .876 | | 1.01 | |
| June..... | | | | | 54 | | 7.8 | | 18.8 | | .329 | | .37 | |
| July..... | | | | | 177 | | 5.3 | | 27.5 | | .481 | | .56 | |
| August..... | | | | | 302 | | 4.5 | | 21.1 | | .369 | | .43 | |
| September..... | | | | | 42 | | 3.0 | | 8.24 | | .144 | | .16 | |
| The year..... | | | | | 2,050 | | 3.0 | | 70.9 | | 1.24 | | 16.83 | |

Sherman Creek at Shermendale, Pa.

Location.- Water-stage recorder, lat. 40°19'25", long. 77°10'05", at highway bridge at Shermendale, Perry County, 1½ miles above mouth of Fishing Run. Zero of gage is 421.90 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.- 200 square miles.

Drainage area.- 200 square miles.
Records available.- October 1931 to September 1938 in reports of U. S. Geological Survey; September 1929 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, 8,360 second-feet Nov. 13 (gage height, 9.43 feet); minimum, 9.0 second-feet Sept. 28 (gage height, 0.80 foot); minimum daily discharge, 20 second-feet Sept. 11.

1929-38: Maximum discharge, 18,800 second-feet Aug. 24, 1933 (gage height, 14.05 feet), from rating curve extended above 6,500 second-feet; minimum, 3.9 second-feet Dec. 1, 1930 (gage height, 0.72 foot); minimum daily discharge, 10

Maximum stage known, 20.34 feet, from floodmark, July 22, 1927 (discharge, about 37,000 second-feet).

Remarks.-- Records good except those for periods of ice effect, Dec. 9-17, Jan. 19-23, which are fair and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Some regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|-------|------|-------|------|-------|------|-------|------|------|------|-------|
| 1 | 45 | 514 | 213 | 330 | 240 | 235 | 383 | 131 | 163 | 56 | 91 | 36 |
| 2 | 45 | 430 | 199 | 453 | 251 | 259 | 300 | 120 | 147 | 63 | 82 | 38 |
| 3 | 34 | 377 | 186 | 347 | 232 | 224 | 283 | 114 | 166 | 56 | 47 | 29 |
| 4 | 51 | 323 | 182 | 312 | 232 | 182 | 263 | 130 | 147 | 48 | 40 | 22 |
| 5 | 53 | 290 | 186 | 291 | 206 | 196 | 243 | 147 | 124 | 44 | 54 | 27 |
| 6 | 77 | 267 | 199 | 259 | 199 | 217 | 228 | 114 | 119 | 41 | 44 | 27 |
| 7 | 65 | 240 | 182 | 425 | 464 | 192 | 221 | 100 | 104 | 36 | 39 | 23 |
| 8 | 49 | 225 | 162 | 360 | 304 | 172 | 224 | 92 | 95 | 35 | 74 | 29 |
| 9 | 49 | 207 | 160 | 267 | 267 | 160 | 304 | 103 | 87 | 41 | 63 | 27 |
| 10 | 62 | 190 | 150 | 271 | 304 | 163 | 312 | 104 | 82 | 48 | 56 | 26 |
| 11 | 67 | 179 | 140 | 271 | 271 | 160 | 239 | 97 | 82 | 45 | 90 | 20 |
| 12 | 58 | 174 | 130 | 251 | 243 | 179 | 221 | 83 | 160 | 88 | 104 | 25 |
| 13 | 46 | 4,830 | 130 | 236 | 255 | 175 | 213 | 85 | 301 | 48 | 46 | 38 |
| 14 | 47 | 2,170 | 130 | 206 | 291 | 298 | 203 | 95 | 128 | 39 | 39 | 39 |
| 15 | 46 | 1,060 | 130 | 192 | 247 | 1,200 | 196 | 169 | 85 | 39 | 36 | 56 |
| 16 | 42 | 749 | 140 | 175 | 217 | 1,130 | 182 | 135 | 79 | 38 | 32 | 42 |
| 17 | 36 | 629 | 190 | 189 | 199 | 1,160 | 179 | 109 | 74 | 29 | 37 | 38 |
| 18 | 48 | 521 | 841 | 166 | 213 | 1,070 | 179 | 89 | 70 | 46 | 436 | 32 |
| 19 | 168 | 438 | 642 | 160 | 243 | 823 | 232 | 95 | 59 | 38 | 115 | 41 |
| 20 | 592 | 406 | 434 | 150 | 566 | 682 | 217 | 122 | 56 | 120 | 52 | 78 |
| 21 | 311 | 347 | 356 | 150 | 561 | 577 | 236 | 141 | 62 | 83 | 43 | 177 |
| 22 | 186 | 308 | 312 | 160 | 443 | 491 | 213 | 113 | 52 | 100 | 41 | 87 |
| 23 | 959 | 271 | 279 | 180 | 420 | 438 | 192 | 114 | 55 | 167 | 36 | 60 |
| 24 | 690 | 251 | 236 | 221 | 397 | 406 | 179 | 1,310 | 55 | 180 | 33 | 46 |
| 25 | 377 | 236 | 217 | 1,070 | 347 | 351 | 172 | 703 | 66 | 84 | 30 | 36 |
| 26 | 282 | 232 | 217 | 724 | 300 | 351 | 166 | 453 | 82 | 69 | 28 | 42 |
| 27 | 577 | 232 | 189 | 448 | 296 | 338 | 145 | 397 | 187 | 56 | 29 | 34 |
| 28 | 2,930 | 296 | 189 | 343 | 261 | 283 | 144 | 312 | 115 | 44 | 26 | 30 |
| 29 | 1,900 | 317 | 206 | 312 | | 259 | 134 | 247 | 78 | 43 | 21 | 32 |
| 30 | 967 | 243 | 186 | 336 | | 271 | 133 | 206 | 59 | 51 | 31 | 33 |
| 31 | 669 | | 189 | 321 | | 365 | | 186 | | 36 | 29 | |

| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|---------|---------|------|-----------------|-------------------|
| October..... | 2,930 | 34 | 372 | 1.86 | 2.14 |
| November..... | 4,830 | 174 | 565 | 2.82 | 3.15 |
| December..... | 841 | 130 | 236 | 1.18 | 1.36 |
| January..... | 1,070 | 150 | 309 | 1.54 | 1.78 |
| February..... | 566 | 199 | 302 | 1.51 | 1.57 |
| March..... | 1,200 | 160 | 420 | 2.10 | 2.42 |
| April..... | 383 | 133 | 218 | 1.09 | 1.22 |
| May..... | 1,310 | 83 | 207 | 1.04 | 1.20 |
| June..... | 301 | 52 | 105 | .525 | .59 |
| July..... | 180 | 29 | 61.6 | .308 | .36 |
| August..... | 436 | 21 | 62.1 | .310 | .36 |
| September..... | 177 | 20 | 42.3 | .212 | .24 |
| The year..... | 4,830 | 20 | 241 | 1.20 | 16.39 |

Clark Creek near Carsonville, Pa.

Location.— Water-stage recorder above spillway of Dauphin Consolidated Water Supply Co. dam, lat. 40°27'40", long. 76°44'40", 1 3/4 miles southeast of Carsonville, Dauphin County, and 15 1/2 miles above mouth. Zero of gage is 561.97 feet above mean sea level (Dauphin Consolidated Water Supply Co. benchmark).

Drainage area.— 21.6 square miles.

Records available.— September 1937 to September 1938.

Extremes.— Maximum discharge during period Sept. 9, 1937, to Sept. 30, 1938, 988 second-feet Nov. 13 (gage height, 2.91 feet), from rating curve extended above 400 second-feet; minimum, 5.0 second-feet Aug. 31 (gage height, 1.05 feet); minimum daily discharge, 6.1 second-feet Aug. 28-30, Sept. 5-7, 10-12.

Remarks.— Records fair. Records for September 1937 supersede those published in report for 1936-37.

Daily and monthly discharge, in second-feet, 1936-37

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|------------------------|------|------|------|------|---------|---------|------|-----------------|-------------------|------|------|-------|
| 1 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | 18.0 |
| 10 | | | | | | | | | | | | 18.0 |
| 11 | | | | | | | | | | | | 16.5 |
| 12 | | | | | | | | | | | | 16.5 |
| 13 | | | | | | | | | | | | 13.5 |
| 14 | | | | | | | | | | | | 13.5 |
| 15 | | | | | | | | | | | | 13.5 |
| 16 | | | | | | | | | | | | 12.0 |
| 17 | | | | | | | | | | | | 13.5 |
| 18 | | | | | | | | | | | | 13.5 |
| 19 | | | | | | | | | | | | 12.0 |
| 20 | | | | | | | | | | | | 12.0 |
| 21 | | | | | | | | | | | | 12.0 |
| 22 | | | | | | | | | | | | 12.0 |
| 23 | | | | | | | | | | | | 12.0 |
| 24 | | | | | | | | | | | | 12.0 |
| 25 | | | | | | | | | | | | 12.0 |
| 26 | | | | | | | | | | | | 10.5 |
| 27 | | | | | | | | | | | | 10.5 |
| 28 | | | | | | | | | | | | 10.5 |
| 29 | | | | | | | | | | | | 12.0 |
| 30 | | | | | | | | | | | | 10.5 |
| 31 | | | | | | | | | | | | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | |
| October..... | | | | | | | | | | | | |
| November..... | | | | | | | | | | | | |
| December..... | | | | | | | | | | | | |
| January..... | | | | | | | | | | | | |
| February..... | | | | | | | | | | | | |
| March..... | | | | | | | | | | | | |
| April..... | | | | | | | | | | | | |
| May..... | | | | | | | | | | | | |
| June..... | | | | | | | | | | | | |
| July..... | | | | | | | | | | | | |
| August..... | | | | | | | | | | | | |
| September... 9-30..... | | | | | 18 | 10.5 | 13.0 | 0.602 | 0.49 | | | |
| The year..... | | | | | | | | | | | | |

Clark Creek near Carsonville, Pa.
(Continued)

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|------|------|------|------|---------|---------|------|-----------------|------|-------------------|------|-------|
| 1 | 10.5 | 85 | 59 | 70 | 45 | 41 | 37 | 29 | 29 | 12.0 | 22 | 19.7 |
| 2 | 10.5 | 71 | 56 | 66 | 42 | 39 | 34 | 29 | 27 | 16.5 | 25 | 8.3 |
| 3 | 10.5 | 59 | 50 | 50 | 42 | 39 | 32 | 27 | 29 | 13.5 | 18.0 | 7.2 |
| 4 | 10.5 | 53 | 50 | 48 | 45 | 34 | 29 | 29 | 25 | 12.0 | 16.5 | 7.2 |
| 5 | 12.0 | 50 | 48 | 45 | 39 | 34 | 27 | 27 | 22 | 10.5 | 15.0 | 6.1 |
| 6 | 15.0 | 45 | 45 | 45 | 45 | 37 | 25 | 25 | 20 | 10.5 | 13.5 | 6.1 |
| 7 | 10.5 | 39 | 42 | 60 | 70 | 34 | 25 | 22 | 20 | 10.5 | 13.5 | 6.1 |
| 8 | 9.4 | 37 | 39 | 50 | 50 | 32 | 27 | 20 | 18.0 | 9.4 | 12.0 | 9.4 |
| 9 | 10.5 | 34 | 34 | 45 | 48 | 32 | 45 | 22 | 18.0 | 9.4 | 12.0 | 7.2 |
| 10 | 10.5 | 32 | 30 | 42 | 48 | 32 | 39 | 25 | 16.5 | 9.4 | 12.0 | 6.1 |
| 11 | 10.5 | 29 | 27 | 39 | 42 | 32 | 32 | 22 | 16.5 | 10.5 | 13.5 | 6.1 |
| 12 | 9.4 | 32 | 29 | 37 | 42 | 34 | 29 | 20 | 27 | 10.4 | 10.5 | 6.1 |
| 13 | 9.4 | 589 | 31 | 37 | 42 | 34 | 27 | 20 | 40 | 16.7 | 10.5 | 7.2 |
| 14 | 8.3 | 315 | 31 | 34 | 39 | 61 | 27 | 20 | 20 | 13.5 | 10.5 | 7.2 |
| 15 | 8.3 | 202 | 29 | 32 | 37 | 106 | 27 | 29 | 18.0 | 12.0 | 9.4 | 12.0 |
| 16 | 9.4 | 141 | 27 | 32 | 37 | 81 | 27 | 25 | 16.5 | 10.5 | 9.4 | 8.3 |
| 17 | 9.4 | 114 | 29 | 32 | 34 | 88 | 27 | 20 | 15.0 | 9.4 | 10.8 | 7.2 |
| 18 | 9.4 | 92 | 89 | 29 | 34 | 88 | 29 | 18.0 | 15.0 | 9.4 | 36 | 8.3 |
| 19 | 53 | 78 | 65 | 23 | 34 | 81 | 39 | 18.0 | 13.5 | 10.5 | 12.0 | 10.5 |
| 20 | 102 | 68 | 48 | 25 | 90 | 74 | 36 | 18.0 | 13.5 | 18.7 | 10.5 | 38 |
| 21 | 37 | 59 | 45 | 25 | 62 | 68 | 45 | 18.0 | 12.0 | 13.7 | 9.4 | 51 |
| 22 | 20 | 50 | 45 | 22 | 50 | 65 | 42 | 16.5 | 12.0 | 42 | 8.3 | 36 |
| 23 | 462 | 45 | 42 | 25 | 50 | 59 | 39 | 16.5 | 12.0 | 124 | 7.2 | 27 |
| 24 | 170 | 42 | 39 | 40 | 53 | 56 | 37 | 80 | 10.5 | 95 | 7.2 | 18.0 |
| 25 | 106 | 39 | 37 | 220 | 50 | 53 | 34 | 44 | 10.5 | 59 | 7.2 | 13.5 |
| 26 | 81 | 39 | 34 | 122 | 50 | 50 | 34 | 34 | 12.2 | 48 | 7.2 | 12.0 |
| 27 | 71 | 39 | 34 | 92 | 50 | 45 | 34 | 34 | 27 | 39 | 7.2 | 12.0 |
| 28 | 269 | 94 | 32 | 74 | 42 | 42 | 32 | 47 | 25 | 32 | 6.1 | 10.5 |
| 29 | 200 | 103 | 32 | 65 | 42 | 42 | 32 | 57 | 15.0 | 27 | 6.1 | 10.5 |
| 30 | 137 | 68 | 32 | 56 | 39 | 39 | 32 | 37 | 13.5 | 25 | 6.1 | 10.5 |
| 31 | 104 | 29 | 29 | 53 | 37 | 37 | 32 | 32 | 13.5 | 22 | 7.3 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October..... | | | | | 462 | 8.3 | 64.4 | 2.98 | | 3.44 | | |
| November..... | | | | | 589 | 29 | 91.4 | 4.23 | | 4.72 | | |
| December..... | | | | | 89 | 27 | 40.6 | 1.88 | | 2.17 | | |
| January..... | | | | | 220 | 22 | 52.7 | 2.44 | | 2.81 | | |
| February..... | | | | | 90 | 34 | 46.9 | 2.17 | | 2.26 | | |
| March..... | | | | | 106 | 32 | 51.3 | 2.38 | | 2.74 | | |
| April..... | | | | | 45 | 25 | 32.7 | 1.51 | | 1.68 | | |
| May..... | | | | | 80 | 16.5 | 28.4 | 1.31 | | 1.51 | | |
| June..... | | | | | 40 | 10.5 | 19.0 | .880 | | .98 | | |
| July..... | | | | | 124 | 9.4 | 27.6 | 1.28 | | 1.48 | | |
| August..... | | | | | 36 | 6.1 | 12.0 | .556 | | .64 | | |
| September..... | | | | | 51 | 6.1 | 13.2 | .611 | | .68 | | |
| The year..... | | | | | 589 | 6.1 | 40.0 | 1.85 | | 25.10 | | |

Stony Creek near Dauphin, Pa.

Location.- Water-stage recorder, lat. 40°22'45", long. 76°54'31", at Reading Co. railroad bridge 1½ miles northeast of Dauphin, Dauphin County. Zero of gage is 353.75 feet above mean sea level (general adjustment of 1907).

Drainage area.- 35.0 square miles.

Records available.- September 1937 to September 1938.

Extremes.—Maximum discharge during period Sept. 24, 1937, to September 30, 1938, 835 second-feet Nov. 13 (gage height, 5.00 feet); minimum, 6.2 second-feet Sept. 10, 1938 (gage height, 1.53 feet); minimum daily discharge, 9.6 second-feet Aug. 30.

Remarks.—Records good except those for periods of ice effect, Dec. 9-17, Jan. 19-23, which are fair and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Some regulation from operation of small storage reservoir upstream.

Daily and monthly discharge, in second-feet. 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|------|------|------|------|---------|------|---------|-----|------|------|-----------------|-------|-------------------|--|
| 1 | 14 | 100 | 84 | 121 | 60 | 60 | 58 | 43 | 45 | 18 | 24 | 28 | | |
| 2 | 13 | 90 | 72 | 107 | 57 | 57 | 55 | 41 | 41 | 21 | 31 | 25 | | |
| 3 | 13 | 83 | 66 | 83 | 53 | 56 | 51 | 39 | 39 | 21 | 26 | 14 | | |
| 4 | 13 | 74 | 60 | 67 | 58 | 53 | 48 | 42 | 37 | 17 | 20 | 12 | | |
| 5 | 16 | 68 | 57 | 60 | 56 | 51 | 46 | 41 | 34 | 14 | 18 | 11 | | |
| 6 | 21 | 64 | 58 | 57 | 54 | 52 | 42 | 39 | 32 | 12 | 16 | 10 | | |
| 7 | 19 | 59 | 55 | 74 | 75 | 55 | 42 | 35 | 29 | 12 | 16 | 14 | | |
| 8 | 16 | 56 | 49 | 70 | 74 | 52 | 42 | 32 | 29 | 11 | 15 | 16 | | |
| 9 | 14 | 54 | 45 | 60 | 61 | 50 | 70 | 33 | 27 | 12 | 23 | 14 | | |
| 10 | 14 | 50 | 38 | 56 | 80 | 48 | 86 | 34 | 23 | 13 | 41 | 10 | | |
| 11 | 15 | 47 | 35 | 53 | 56 | 46 | 66 | 32 | 23 | 12 | 30 | 10 | | |
| 12 | 14 | 46 | 37 | 51 | 51 | 46 | 55 | 31 | 32 | 91 | 26 | 10 | | |
| 13 | 14 | 528 | 37 | 51 | 51 | 48 | 50 | 29 | 40 | 85 | 22 | 11 | | |
| 14 | 14 | 586 | 36 | 50 | 52 | 80 | 46 | 30 | 42 | 36 | 20 | 14 | | |
| 15 | 14 | 325 | 36 | 47 | 55 | 151 | 45 | 42 | 27 | 22 | 19 | 21 | | |
| 16 | 14 | 174 | 36 | 45 | 48 | 130 | 43 | 42 | 23 | 16 | 19 | 21 | | |
| 17 | 14 | 136 | 50 | 45 | 44 | 127 | 42 | 34 | 21 | 14 | 23 | 16 | | |
| 18 | 14 | 115 | 166 | 42 | 42 | 125 | 43 | 29 | 20 | 14 | 101 | 15 | | |
| 19 | 76 | 99 | 139 | 30 | 46 | 103 | 55 | 29 | 19 | 16 | 86 | 19 | | |
| 20 | 163 | 90 | 121 | 30 | 117 | 93 | 55 | 28 | 18 | 56 | 42 | 57 | | |
| 21 | 115 | 81 | 72 | 31 | 104 | 85 | 82 | 29 | 17 | 53 | 25 | 100 | | |
| 22 | 58 | 73 | 65 | 33 | 81 | 80 | 73 | 30 | 16 | 76 | 16 | 96 | | |
| 23 | 324 | 65 | 59 | 38 | 73 | 76 | 69 | 28 | 15 | 115 | 14 | 72 | | |
| 24 | 330 | 58 | 54 | 52 | 75 | 74 | 59 | 117 | 14 | 148 | 14 | 50 | | |
| 25 | 126 | 54 | 51 | 172 | 72 | 69 | 54 | 82 | 14 | 90 | 11 | 36 | | |
| 26 | 88 | 51 | 50 | 179 | 65 | 68 | 51 | 56 | 15 | 58 | 10 | 28 | | |
| 27 | 76 | 76 | 46 | 97 | 61 | 66 | 48 | 48 | 36 | 45 | 10 | 24 | | |
| 28 | 217 | 150 | 45 | 86 | 59 | 60 | 47 | 50 | 41 | 36 | 10 | 21 | | |
| 29 | 282 | 159 | 46 | 81 | 67 | 57 | 45 | 97 | 30 | 30 | 10 | 20 | | |
| 30 | 168 | 110 | 42 | 69 | 55 | 55 | 44 | 76 | 21 | 26 | 9.6 | 19 | | |
| 31 | 123 | | 38 | 66 | | 57 | | 54 | | 22 | 14 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 350 | | 13 | | 77.8 | | 2.22 | | 2.56 | |
| November..... | | | | | 586 | | 46 | | 124 | | 3.54 | | 3.95 | |
| December..... | | | | | 166 | | 35 | | 59.5 | | 1.70 | | 1.96 | |
| January..... | | | | | 179 | | 30 | | 67.8 | | 1.94 | | 2.24 | |
| February..... | | | | | 117 | | 42 | | 62.8 | | 1.79 | | 1.86 | |
| March..... | | | | | 151 | | 48 | | 71.9 | | 2.05 | | 2.36 | |
| April..... | | | | | 86 | | 42 | | 55.7 | | 1.53 | | 1.71 | |
| May..... | | | | | 117 | | 28 | | 44.3 | | 1.27 | | 1.46 | |
| June..... | | | | | 45 | | 14 | | 27.3 | | .780 | | .87 | |
| July..... | | | | | 148 | | 11 | | 39.1 | | 1.12 | | 1.29 | |
| August..... | | | | | 101 | | 9.6 | | 24.6 | | .703 | | .81 | |
| September..... | | | | | 100 | | 10 | | 27.1 | | .774 | | .86 | |
| The year..... | | | | | 586 | | 9.6 | | 56.6 | | 1.62 | | 21.93 | |

Conodoguinet Creek near Hogestown, Pa.

Location.- Water-stage recorder, lat. 40°15'10", long. 77°01'15", 1,000 feet above highway bridge, three-eighths of a mile below mouth of Hogestown Run, and 1 mile northeast of Hogestown, Cumberland County. Zero of gage is 350.25 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.- 470 square miles.

Records available.- October 1931 to September 1938 in reports of U. S. Geological Survey; September 1929 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.— Maximum discharge during year, 5,560 second-feet Oct. 29 (gage height, 7.39 feet); minimum, 58 second-feet Aug. 29 (gage height, 0.91 foot); minimum daily discharge, 66 second-feet Aug. 29.

Remarks. - Records good except those for period of missing gage record, May 1-8, which are fair and were determined by comparison with records for station on Sherman Creek at Shermendale. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|-------|-------|-------|------|-------|------|-----|------|------|------|-------|
| 1 | 169 | 1,170 | 576 | 492 | 526 | 348 | 548 | 270 | 267 | 107 | 102 | 109 |
| 2 | 164 | 948 | 526 | 768 | 413 | 428 | 484 | 260 | 238 | 128 | 154 | 98 |
| 3 | 161 | 804 | 489 | 758 | 413 | 399 | 438 | 250 | 238 | 107 | 124 | 110 |
| 4 | 161 | 691 | 458 | 667 | 448 | 351 | 408 | 270 | 254 | 105 | 93 | 84 |
| 5 | 178 | 610 | 438 | 598 | 423 | 332 | 354 | 300 | 246 | 99 | 92 | 75 |
| 6 | 205 | 550 | 474 | 537 | 404 | 375 | 365 | 270 | 204 | 98 | 128 | 83 |
| 7 | 295 | 498 | 469 | 674 | 541 | 370 | 360 | 230 | 193 | 102 | 240 | 76 |
| 8 | 221 | 463 | 370 | 841 | 620 | 328 | 360 | 220 | 182 | 88 | 231 | 84 |
| 9 | 194 | 443 | 375 | 649 | 500 | 301 | 413 | 204 | 169 | 88 | 132 | 86 |
| 10 | 184 | 410 | 346 | 510 | 506 | 301 | 479 | 215 | 156 | 92 | 117 | 81 |
| 11 | 218 | 382 | 316 | 537 | 489 | 296 | 433 | 204 | 156 | 102 | 230 | 89 |
| 12 | 254 | 368 | 307 | 521 | 428 | 306 | 375 | 200 | 172 | 82 | 210 | 85 |
| 13 | 196 | 3,010 | 319 | 500 | 433 | 324 | 356 | 189 | 165 | 124 | 141 | 94 |
| 14 | 199 | 4,070 | 314 | 458 | 484 | 401 | 342 | 200 | 165 | 108 | 110 | 100 |
| 15 | 182 | 2,030 | 337 | 423 | 474 | 1,880 | 337 | 246 | 146 | 98 | 85 | 139 |
| 16 | 176 | 1,410 | 328 | 389 | 399 | 2,310 | 324 | 267 | 137 | 94 | 100 | 133 |
| 17 | 172 | 1,160 | 354 | 384 | 365 | 2,080 | 319 | 238 | 129 | 94 | 94 | 112 |
| 18 | 175 | 974 | 998 | 375 | 370 | 1,860 | 328 | 204 | 134 | 77 | 209 | 98 |
| 19 | 278 | 835 | 1,610 | 282 | 408 | 1,490 | 394 | 204 | 126 | 101 | 159 | 93 |
| 20 | 1,750 | 774 | 1,090 | 285 | 777 | 1,200 | 369 | 234 | 118 | 98 | 123 | 120 |
| 21 | 1,630 | 684 | 853 | 370 | 884 | 1,010 | 423 | 324 | 118 | 99 | 125 | 249 |
| 22 | 950 | 615 | 726 | 356 | 744 | 860 | 428 | 379 | 113 | 126 | 89 | 418 |
| 23 | 1,880 | 564 | 649 | 346 | 678 | 756 | 379 | 322 | 119 | 132 | 98 | 267 |
| 24 | 2,440 | 516 | 564 | 414 | 632 | 684 | 342 | 583 | 114 | 224 | 88 | 186 |
| 25 | 1,340 | 484 | 510 | 1,080 | 564 | 615 | 324 | 936 | 108 | 176 | 74 | 152 |
| 26 | 941 | 469 | 489 | 1,580 | 495 | 586 | 310 | 609 | 130 | 190 | 73 | 112 |
| 27 | 928 | 500 | 453 | 678 | 474 | 598 | 292 | 532 | 146 | 129 | 75 | 110 |
| 28 | 3,530 | 603 | 428 | 678 | 453 | 521 | 284 | 495 | 138 | 115 | 70 | 98 |
| 29 | 4,960 | 726 | 443 | 609 | | 469 | 271 | 399 | 130 | 99 | 66 | 92 |
| 30 | 2,470 | 673 | 433 | 632 | | 458 | 258 | 332 | 124 | 97 | 74 | 88 |
| 31 | 1,570 | | 408 | 615 | | 489 | | 292 | | 92 | 80 | |

| Month | Maximum. | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|----------|---------|------|-----------------|-------------------|
| October..... | 4,960 | 161 | 909 | 1.93 | 2.22 |
| November..... | 4,070 | 368 | 914 | 1.94 | 2.16 |
| December..... | 1,610 | 307 | 531 | 1.13 | 1.30 |
| January..... | 1,580 | 282 | 587 | 1.25 | 1.44 |
| February..... | 884 | 365 | 512 | 1.09 | 1.14 |
| March..... | 2,310 | 296 | 753 | 1.56 | 1.80 |
| April..... | 548 | 258 | 372 | .791 | .88 |
| May..... | 936 | 189 | 319 | .679 | .78 |
| June..... | 267 | 108 | 161 | .543 | .38 |
| July..... | 224 | 77 | 112 | .238 | .27 |
| August..... | 240 | 66 | 122 | .260 | .30 |
| September..... | 418 | 75 | 124 | .264 | .29 |
| The year..... | 4,960 | 66 | 450 | .957 | 12.96 |

Swatara Creek at Harper Tavern, Pa.

Location.- Water-stage recorder, lat. 40°24'10", long. 76°34'35", at highway bridge at Harper Tavern, Lebanon County, 6 miles northwest of Annville and 8½ miles below mouth of Little Swatara Creek. Zero of gage is 355.53 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.- 333 square miles.

Records available:— October 1919 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; December 1918 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 19 years, 536 second-feet.

Extremes.-- Maximum discharge during year, 11,000 second-feet Oct. 23 (gage height, 11.8 feet, from graph based on trend of recorder graph and an observed gage reading near crest); minimum, 57 second-feet Oct. 17 (gage height, 0.18 foot). 1918-38: Maximum discharge, 25,300 second-feet Aug. 24, 1933 (gage height, 17.53 feet); minimum, 8 second-feet Sept. 24, 25, 1932 (gage height, 0.03 foot). Maximum stage known, 25.6 feet, from floodmark, June 1, 1889 (discharge, 53,000 second-feet, from rating curve extended above 25,000 second-feet).

Remarks.— Records good except those for periods of ice effect, Dec. 9-18, Jan. 19-22, Feb. 27 to Mar. 2, which are fair and were determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Discharge for period of recorder failure, Oct. 23, 24, determined from trend of recorder graph and an observed gage reading near crest. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|-----------|-------|-------|-------|-------|---------|-------|---------|-----|-------|-------|-----------------|-------|-------------------|--|
| 1 | 69 | 1,100 | 886 | 1,100 | 727 | 480 | 455 | 331 | 312 | 552 | 372 | 426 | | |
| 2 | 67 | 952 | 732 | 1,550 | 573 | 520 | 400 | 313 | 279 | 648 | 600 | 193 | | |
| 3 | 67 | 842 | 650 | 1,130 | 600 | 535 | 370 | 295 | 316 | 471 | 363 | 115 | | |
| 4 | 69 | 716 | 590 | 925 | 749 | 440 | 340 | 300 | 293 | 331 | 298 | 100 | | |
| 5 | 74 | 650 | 562 | 815 | 612 | 465 | 322 | 286 | 244 | 274 | 271 | 94 | | |
| 6 | 89 | 595 | 578 | 700 | 556 | 480 | 304 | 277 | 231 | 255 | 630 | 84 | | |
| 7 | 89 | 540 | 551 | 925 | 1,210 | 460 | 318 | 254 | 201 | 204 | 261 | 80 | | |
| 8 | 72 | 505 | 450 | 793 | 952 | 420 | 336 | 252 | 240 | 183 | 298 | 137 | | |
| 9 | 63 | 470 | 380 | 562 | 815 | 395 | 1,400 | 232 | 201 | 170 | 307 | 100 | | |
| 10 | 69 | 455 | 320 | 530 | 826 | 390 | 1,260 | 250 | 157 | 398 | 227 | 82 | | |
| 11 | 74 | 400 | 310 | 515 | 678 | 380 | 870 | 246 | 155 | 254 | 357 | 78 | | |
| 12 | 72 | 375 | 300 | 490 | 595 | 420 | 716 | 223 | 604 | 3,270 | 231 | 80 | | |
| 13 | 72 | 2,330 | 320 | 485 | 600 | 425 | 628 | 205 | 690 | 930 | 170 | 89 | | |
| 14 | 65 | 2,200 | 330 | 455 | 644 | 888 | 562 | 210 | 338 | 600 | 146 | 91 | | |
| 15 | 65 | 1,520 | 320 | 425 | 568 | 1,750 | 515 | 370 | 216 | 499 | 137 | 1,860 | | |
| 16 | 63 | 1,220 | 310 | 380 | 470 | 1,580 | 475 | 336 | 183 | 377 | 126 | 437 | | |
| 17 | 63 | 1,040 | 400 | 405 | 440 | 1,620 | 440 | 246 | 163 | 293 | 157 | 208 | | |
| 18 | 61 | 898 | 2,000 | 360 | 460 | 1,550 | 450 | 205 | 191 | 261 | 630 | 204 | | |
| 19 | 916 | 766 | 1,370 | 220 | 512 | 1,250 | 551 | 201 | 176 | 274 | 303 | 231 | | |
| 20 | 2,500 | 722 | 1,010 | 220 | 1,530 | 1,100 | 455 | 210 | 143 | 1,090 | 173 | 1,020 | | |
| 21 | 1,250 | 634 | 870 | 260 | 1,280 | 952 | 520 | 223 | 128 | 1,240 | 146 | 1,860 | | |
| 22 | 732 | 551 | 771 | 330 | 1,100 | 837 | 624 | 241 | 118 | 1,140 | 128 | 2,040 | | |
| 23 | 8,000 | 500 | 705 | 430 | 1,070 | 749 | 578 | 193 | 113 | 1,280 | 115 | 1,290 | | |
| 24 | 6,400 | 465 | 590 | 572 | 1,130 | 694 | 475 | 932 | 110 | 1,590 | 113 | 846 | | |
| 25 | 2,340 | 450 | 568 | 3,350 | 925 | 595 | 450 | 861 | 100 | 1,110 | 100 | 588 | | |
| 26 | 1,650 | 440 | 568 | 2,270 | 793 | 556 | 420 | 499 | 156 | 828 | 96 | 476 | | |
| 27 | 1,400 | 496 | 490 | 1,460 | 700 | 535 | 395 | 465 | 1,410 | 672 | 96 | 404 | | |
| 28 | 3,160 | 1,170 | 470 | 1,130 | 600 | 465 | 385 | 437 | 2,610 | 564 | 91 | 410 | | |
| 29 | 2,380 | 1,280 | 490 | 952 | | 435 | 360 | 618 | 1,080 | 465 | 89 | 307 | | |
| 30 | 1,720 | 980 | 450 | 864 | | 425 | 336 | 460 | 720 | 546 | 87 | 274 | | |
| 31 | 1,340 | | 440 | 870 | | 455 | | 362 | | 410 | 103 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October | | | | | 8,000 | | 61 | | 1,130 | | 3.39 | | 3.91 | |
| November | | | | | 2,330 | | 375 | | 841 | | 2.53 | | 2.82 | |
| December | | | | | 2,000 | | 300 | | 604 | | 1.81 | | 2.09 | |
| January | | | | | 3,350 | | 220 | | 822 | | 2.47 | | 2.25 | |
| February | | | | | 1,530 | | 440 | | 776 | | 2.33 | | 2.43 | |
| March | | | | | 1,750 | | 380 | | 718 | | 2.16 | | 2.49 | |
| April | | | | | 1,400 | | 304 | | 524 | | 1.57 | | 1.75 | |
| May | | | | | 932 | | 193 | | 339 | | 1.02 | | 1.18 | |
| June | | | | | 2,610 | | 100 | | 396 | | 1.19 | | 1.33 | |
| July | | | | | 3,270 | | 170 | | 662 | | 2.05 | | 2.36 | |
| August | | | | | 630 | | 87 | | 234 | | .703 | | .81 | |
| September | | | | | 2,040 | | 78 | | 474 | | 1.42 | | 1.58 | |
| The year | | | | | 8,000 | | 61 | | 628 | | 1.89 | | 25.60 | |

Manada Creek at Manada Gap, Pa.

Location.- Water-stage recorder and concrete control, lat. 40°23'55", long. 76°42'40", at highway bridge at Manada Gap, Dauphin County, 3 miles northwest of Shellville and 9 miles above mouth. Zero of gage is 516.07 feet above mean sea level (general adjustment of 1929).

Drainage area.- 13.5 square miles.

Records available.- September 1937 to September 1938.

Extremes.— Maximum discharge during the period Sept. 16, 1937, to Sept. 30, 1938, 388 second-feet Nov. 13 (gage height, 4.00 feet); minimum 2.5 second-feet Sept. 7, 1938 (gage height, 1.70 feet).

Remarks.- Records good except those for periods of ice effect, Dec. 10-17, Jan. 18-22, Mar. 1, which are fair and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Records for September 1937 supersede those published in report for 1936-37.

Daily and monthly discharge, in second-feet, 1936-57

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|------|------|------|------|---------|------|---------|-----|------|------|-----------------|-------------------|
| 1 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | 6. |
| 17 | | | | | | | | | | | | 6. |
| 18 | | | | | | | | | | | | 6. |
| 19 | | | | | | | | | | | | 5. |
| 20 | | | | | | | | | | | | 5. |
| 21 | | | | | | | | | | | | 5. |
| 22 | | | | | | | | | | | | 5. |
| 23 | | | | | | | | | | | | 5. |
| 24 | | | | | | | | | | | | 5. |
| 25 | | | | | | | | | | | | 4. |
| 26 | | | | | | | | | | | | 4. |
| 27 | | | | | | | | | | | | 4. |
| 28 | | | | | | | | | | | | 5. |
| 29 | | | | | | | | | | | | 5. |
| 30 | | | | | | | | | | | | 4. |
| 31 | | | | | | | | | | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | Run-off in inches |
| October..... | | | | | 6.9 | | 4.6 | | 5.36 | | 0.397 | 0.22 |
| November..... | | | | | | | | | | | | |
| December..... | | | | | | | | | | | | |
| January..... | | | | | | | | | | | | |
| February..... | | | | | | | | | | | | |
| March..... | | | | | | | | | | | | |
| April..... | | | | | | | | | | | | |
| May..... | | | | | | | | | | | | |
| June..... | | | | | | | | | | | | |
| July..... | | | | | | | | | | | | |
| August..... | | | | | | | | | | | | |
| September..... | | | | | | | | | | | | |
| The year..... | | | | | | | | | | | | |

Codorus Creek at Spring Grove, Pa.

Location.— Water-stage recorder, lat. 39°52'10", long. 76°51'55", at highway bridge at Spring Grove, York County, half a mile below mouth of Bunch Creek. Zero of gage is 436.43 feet (revised) above mean sea level (preliminary levels of 1920).

Drainage area.— 74.3 square miles.

Records available.— March 1932 to September 1938 in reports of U. S. Geological Survey; April 1929 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.— Maximum discharge during year, 3,180 second-feet Nov. 13 (gage height, 7.39 feet); minimum, 6.9 second-feet Aug. 26, 30; minimum daily discharge, 10 second-feet Aug. 27, 29, 30, Sept. 10, 11.

1929-38. Maximum discharge, 11,200 second-feet Aug. 23, 1933 (gage height, 11.84 feet), from rating curve extended on basis of computed discharge over dam upstream; minimum recorded, 0.8 second-foot Sept. 20, 1936 (gage height, 0.23 foot); minimum daily discharge, 2.0 second-feet Sept. 20, 1936.

Remarks.— Records fair except those for period of recorder failure, Nov. 23-29, which are poor and were determined from the range in stage shown by recorder graph and by comparison with records for stations in adjacent drainage areas. Regulation at low stages from operation of paper mill above station.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|---------|---------|------|-----------------|-------------------|------|------|-----|------|------|------|-------|
| 1 | 13 | 76 | 82 | 50 | 41 | 58 | 76 | 44 | 35 | 31 | 108 | 108 |
| 2 | 11 | 71 | 78 | 59 | 40 | 55 | 70 | 39 | 33 | 33 | 80 | 17 |
| 3 | 12 | 67 | 70 | 47 | 44 | 56 | 64 | 40 | 34 | 28 | 222 | 14 |
| 4 | 17 | 59 | 68 | 45 | 48 | 51 | 61 | 46 | 32 | 25 | 74 | 14 |
| 5 | 18 | 56 | 69 | 45 | 48 | 62 | 58 | 41 | 31 | 24 | 32 | 12 |
| 6 | 19 | 54 | 77 | 42 | 45 | 65 | 55 | 38 | 29 | 22 | 25 | 11 |
| 7 | 15 | 49 | 72 | 77 | 51 | 56 | 56 | 32 | 29 | 21 | 22 | 12 |
| 8 | 14 | 47 | 59 | 56 | 48 | 74 | 74 | 34 | 47 | 20 | 20 | 15 |
| 9 | 15 | 44 | 57 | 45 | 45 | 89 | 89 | 36 | 31 | 19 | 38 | 12 |
| 10 | 20 | 41 | 50 | 45 | 44 | 49 | 69 | 36 | 29 | 20 | 19 | 10 |
| 11 | 18 | 38 | 50 | 45 | 40 | 53 | 59 | 34 | 27 | 19 | 19 | 10 |
| 12 | 16 | 44 | 47 | 46 | 42 | 56 | 55 | 32 | 28 | 19 | 16 | 12 |
| 13 | 16 | 1,550 | 44 | 45 | 46 | 57 | 53 | 30 | 56 | 19 | 13 | 13 |
| 14 | 16 | 386 | 43 | 42 | 45 | 190 | 52 | 34 | 30 | 18 | 13 | 12 |
| 15 | 13 | 230 | 43 | 42 | 39 | 343 | 51 | 61 | 28 | 42 | 12 | 15 |
| 16 | 14 | 170 | 50 | 39 | 38 | 227 | 49 | 39 | 26 | 20 | 11 | 12 |
| 17 | 14 | 145 | 55 | 41 | 36 | 208 | 49 | 34 | 27 | 20 | 19 | 12 |
| 18 | 16 | 120 | 85 | 39 | 38 | 187 | 62 | 33 | 24 | 22 | 301 | 16 |
| 19 | 375 | 108 | 65 | 35 | 42 | 149 | 79 | 35 | 24 | 22 | 28 | 17 |
| 20 | 259 | 102 | 55 | 37 | 170 | 136 | 55 | 59 | 23 | 24 | 20 | 136 |
| 21 | 85 | 85 | 52 | 37 | 102 | 122 | 53 | 45 | 23 | 30 | 17 | 100 |
| 22 | 54 | 77 | 50 | 41 | 78 | 110 | 54 | 138 | 22 | 78 | 14 | 35 |
| 23 | 1,310 | 70 | 49 | 41 | 92 | 102 | 49 | 45 | 22 | 301 | 14 | 27 |
| 24 | 295 | 66 | 45 | 47 | 88 | 95 | 46 | 222 | 21 | 135 | 12 | 19 |
| 25 | 159 | 64 | 49 | 149 | 78 | 85 | 44 | 83 | 21 | 51 | 12 | 18 |
| 26 | 117 | 68 | 47 | 70 | 67 | 90 | 45 | 59 | 146 | 41 | 12 | 16 |
| 27 | 116 | 100 | 42 | 60 | 69 | 80 | 42 | 66 | 459 | 36 | 10 | 16 |
| 28 | 258 | 250 | 48 | 43 | 57 | 74 | 41 | 53 | 71 | 34 | 11 | 14 |
| 29 | 139 | 120 | 50 | 42 | 71 | 41 | 45 | 44 | 62 | 10 | 15 | 15 |
| 30 | 110 | 92 | 47 | 45 | 76 | 42 | 40 | 35 | 46 | 10 | 15 | 15 |
| 31 | 89 | | 46 | 51 | 90 | 90 | 38 | 32 | 32 | 28 | | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October..... | 1,310 | 11 | 117 | 1.57 | 1.81 | | | | | | | |
| November..... | 1,550 | 38 | 148 | 1.99 | 2.22 | | | | | | | |
| December..... | 85 | 42 | 56.2 | .756 | .87 | | | | | | | |
| January..... | 149 | 33 | 49.7 | .669 | .77 | | | | | | | |
| February..... | 170 | 36 | 57.9 | .779 | .81 | | | | | | | |
| March..... | 343 | 45 | 101 | 1.36 | 1.57 | | | | | | | |
| April..... | 89 | 41 | 56.4 | .759 | .85 | | | | | | | |
| May..... | 222 | 30 | 52.0 | .700 | .81 | | | | | | | |
| June..... | 459 | 21 | 50.6 | .681 | .76 | | | | | | | |
| July..... | 301 | 18 | 42.7 | .575 | .66 | | | | | | | |
| August..... | 301 | 10 | 40.1 | .540 | .62 | | | | | | | |
| September..... | 136 | 10 | 25.2 | .339 | .38 | | | | | | | |
| The year..... | 1,550 | 10 | 66.5 | .895 | 12.13 | | | | | | | |

South Branch of Codorus Creek near York, Pa.

Location.— Water-stage recorder, lat. 39°55'10", long. 76°45'00", just below dam of pumping station of York Water Co., half a mile above confluence with Codorus Creek, and 3 miles southwest of York, York County. Zero of gage is 373.03 feet above mean sea level (general adjustment of 1907).

Drainage area.— 117 square miles.

Records available.— October 1931 to September 1938 in reports of U. S. Geological Survey; May 1925 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 11 years (1927-38), 132 second-feet.

Extremes.— Maximum discharge during year, 3,790 second-feet June 27 (gage height, 8.50 feet); minimum, 2.8 second-feet Oct. 16 (gage height, 0.29 foot); minimum daily discharge, 15 second-feet Oct. 16.

1925-38. Maximum discharge, 19,300 second-feet Aug. 23, 1933 (gage height, 17.97 feet, from floodmark in gage house), from rating curve extended on basis of contracted-opening determination; minimum, 0.8 second-foot Aug. 28, 1935, Nov. 19, 1936; minimum daily discharge, 5.5 second-feet Sept. 24, 1936.

Remarks.— Records fair. Discharge for periods of recorder failure, Dec. 9-13, 16-20, Dec. 27 to Jan. 3, determined from range in stage shown by recorder graph and by comparison with records for stations in adjacent drainage areas. Regulation from pumping plant upstream. Municipal water supply for York diverted above station not included in records except in last three columns of monthly table. Record of monthly diversion furnished by York Water Co.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|----------|---------|------|-----------|------|------------------------|-----------------|-------------------|-------|------|------|-------|
| 1 | 30 | 109 | 114 | 75 | 70 | 87 | 119 | 74 | 48 | 66 | 74 | 252 |
| 2 | 31 | 102 | 111 | 90 | 68 | 86 | 107 | 59 | 42 | 68 | 100 | 46 |
| 3 | 25 | 99 | 104 | 76 | 71 | 88 | 104 | 56 | 54 | 64 | 57 | 37 |
| 4 | 36 | 95 | 102 | 69 | 78 | 82 | 96 | 67 | 53 | 57 | 60 | 36 |
| 5 | 38 | 89 | 109 | 67 | 70 | 94 | 85 | 58 | 53 | 48 | 52 | 35 |
| 6 | 33 | 87 | 115 | 70 | 73 | 111 | 88 | 56 | 47 | 51 | 49 | 29 |
| 7 | 36 | 86 | 106 | 101 | 87 | 86 | 86 | 48 | 42 | 39 | 59 | 29 |
| 8 | 27 | 79 | 91 | 84 | 72 | 83 | 107 | 46 | 106 | 37 | 49 | 35 |
| 9 | 32 | 76 | 86 | 72 | 69 | 78 | 142 | 55 | 49 | 38 | 135 | 30 |
| 10 | 35 | 74 | 76 | 65 | 74 | 79 | 111 | 58 | 43 | 45 | 46 | 29 |
| 11 | 26 | 68 | 74 | 72 | 68 | 78 | 94 | 50 | 39 | 42 | 48 | 24 |
| 12 | 31 | 80 | 73 | 69 | 66 | 88 | 88 | 47 | 77 | 97 | 34 | 38 |
| 13 | 82 | 1,450 | 72 | 70 | 68 | 84 | 79 | 50 | 139 | 37 | 38 | 37 |
| 14 | 41 | 576 | 74 | 67 | 71 | 180 | 76 | 54 | 49 | 33 | 32 | 31 |
| 15 | 48 | 353 | 76 | 66 | 64 | 457 | 73 | 109 | 36 | 131 | 31 | 33 |
| 16 | 15 | 268 | 82 | 65 | 60 | 311 | 76 | 64 | 53 | 54 | 87 | 31 |
| 17 | 32 | 236 | 95 | 64 | 62 | 297 | 74 | 132 | 32 | 33 | 38 | 30 |
| 18 | 34 | 199 | 120 | 62 | 62 | 283 | 95 | 111 | 33 | 81 | 716 | 38 |
| 19 | 256 | 176 | 100 | 48 | 76 | 226 | 142 | 72 | 35 | 54 | 68 | 40 |
| 20 | 256 | 174 | 90 | 63 | 178 | 214 | 86 | 50 | 29 | 43 | 68 | 168 |
| 21 | 94 | 153 | 83 | 62 | 150 | 186 | 84 | 59 | 28 | 257 | 46 | 195 |
| 22 | 70 | 134 | 79 | 71 | 115 | 172 | 78 | 158 | 31 | 264 | 42 | 102 |
| 23 | 1,180 | 127 | 76 | 66 | 119 | 159 | 75 | 51 | 30 | 383 | 35 | 67 |
| 24 | 306 | 114 | 72 | 75 | 128 | 148 | 75 | 182 | 27 | 312 | 38 | 53 |
| 25 | 178 | 115 | 79 | 192 | 107 | 136 | 71 | 138 | 29 | 128 | 29 | 46 |
| 26 | 144 | 119 | 78 | 119 | 99 | 136 | 68 | 86 | 178 | 92 | 31 | 42 |
| 27 | 134 | 147 | 70 | 79 | 99 | 133 | 62 | 118 | 2,520 | 85 | 31 | 42 |
| 28 | 264 | 201 | 75 | 75 | 87 | 115 | 59 | 93 | 174 | 75 | 29 | 35 |
| 29 | 175 | 151 | 80 | 73 | | 112 | 56 | 75 | 106 | 84 | 28 | 34 |
| 30 | 142 | 127 | 74 | 78 | | 115 | 66 | 66 | 76 | 87 | 30 | 39 |
| 31 | 121 | | 70 | 81 | | 134 | 58 | 58 | | 64 | 50 | |
| Month | Observed | | | Diversion | | Adjusted for diversion | | | | | | |
| | Maximum | Minimum | Mean | (Mean) | | Mean | Per square mile | Run-off in inches | | | | |
| October..... | 1,180 | 15 | 127 | 13.1 | | 140 | 1.20 | 1.38 | | | | |
| November..... | 1,450 | 68 | 195 | 12.5 | | 208 | 1.78 | 1.99 | | | | |
| December..... | 120 | 70 | 87.3 | 12.5 | | 99.8 | .853 | .96 | | | | |
| January..... | 192 | 48 | 77.0 | 11.8 | | 88.8 | .759 | .88 | | | | |
| February..... | 178 | 60 | 86.0 | 12.0 | | 98.0 | .838 | .87 | | | | |
| March..... | 457 | 78 | 150 | 11.9 | | 162 | 1.38 | 1.59 | | | | |
| April..... | 142 | 56 | 87.4 | 12.2 | | 99.6 | .851 | .95 | | | | |
| May..... | 182 | 46 | 77.4 | 12.1 | | 89.5 | .765 | .88 | | | | |
| June..... | 2,520 | 27 | 141 | 13.0 | | 154 | 1.32 | 1.47 | | | | |
| July..... | 383 | 33 | 95.3 | 13.7 | | 109 | .952 | 1.07 | | | | |
| August..... | 716 | 25 | 69.4 | 14.2 | | 83.6 | .715 | .83 | | | | |
| September..... | 252 | 24 | 55.8 | 13.0 | | 68.8 | .588 | .66 | | | | |
| The year..... | 2,520 | 15 | 104 | 12.7 | | 117 | 1.00 | 13.54 | | | | |

Conestoga Creek at Lancaster, Pa.

Location.— Water-stage recorder, lat. 40°03'00", long. 76°16'40", at Pennsylvania Railroad bridge 500 feet below diversion dam of city waterworks and three-quarters of a mile east of Lancaster, Lancaster County. Zero of gage is 244.74 feet above mean sea level (general adjustment of 1907).

Drainage area.— 322 square miles.

Records available.— September 1928 to September 1938.

Extremes.— Maximum discharge during year, 8,280 second-feet Oct. 23 (gage height, 9.00 feet), from rating curve extended above 2,000 second-feet; minimum, 72 second-feet Oct. 17 (gage height, 2.92 feet); minimum daily discharge, 81 second-feet Oct. 17.

1928-38: Maximum discharge, 22,800 second-feet Aug. 24, 1933 (gage height, 17.52 feet, from floodmark in recorder shelter), from rating curve extended on basis of slope-area determination; probably no flow at times; minimum daily discharge observed, 9 second-feet Oct. 14, 1931, Sept. 15, 23, 1932.

Remarks.— Records poor. Discharge for periods of recorder failure, Nov. 24-27, Dec. 10, 19-23, Jan. 2, 3, Feb. 7-16, determined from range shown by recorder chart, weather records, and by comparison with records for stations in adjacent drainage areas. Regulation from operation of waterworks. Water supply for city of Lancaster diverted above gage not included in records except in last four columns of monthly table. Record of diversion furnished by city of Lancaster.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|----------|---------|------|-----------|-------|------------------------|-------------------|-----|-------|-------|------|-------|
| 1 | 121 | 468 | 357 | 264 | 418 | 363 | 446 | 256 | 159 | 315 | 476 | 269 |
| 2 | 116 | 435 | 334 | 500 | 338 | 435 | 398 | 249 | 156 | 324 | 633 | 224 |
| 3 | 116 | 418 | 315 | 360 | 338 | 413 | 372 | 226 | 147 | 285 | 388 | 156 |
| 4 | 113 | 388 | 306 | 294 | 413 | 362 | 362 | 237 | 147 | 252 | 348 | 147 |
| 5 | 129 | 362 | 302 | 281 | 357 | 362 | 338 | 226 | 136 | 233 | 329 | 144 |
| 6 | 121 | 353 | 357 | 268 | 329 | 408 | 324 | 212 | 150 | 216 | 334 | 145 |
| 7 | 118 | 324 | 372 | 376 | 420 | 388 | 324 | 192 | 146 | 198 | 343 | 144 |
| 8 | 108 | 330 | 294 | 400 | 380 | 343 | 343 | 182 | 214 | 189 | 315 | 144 |
| 9 | 113 | 306 | 281 | 281 | 350 | 329 | 563 | 192 | 190 | 176 | 306 | 150 |
| 10 | 105 | 285 | 250 | 264 | 350 | 320 | 538 | 192 | 150 | 274 | 319 | 131 |
| 11 | 113 | 281 | 233 | 268 | 310 | 315 | 372 | 189 | 166 | 217 | 353 | 121 |
| 12 | 118 | 272 | 226 | 260 | 270 | 338 | 334 | 179 | 3,070 | 3,120 | 276 | 134 |
| 13 | 113 | 1,120 | 233 | 272 | 270 | 334 | 315 | 170 | 1,320 | 609 | 249 | 131 |
| 14 | 106 | 858 | 216 | 268 | 320 | 628 | 302 | 179 | 442 | 372 | 226 | 131 |
| 15 | 103 | 533 | 216 | 249 | 290 | 1,530 | 289 | 336 | 324 | 432 | 233 | 136 |
| 16 | 94 | 452 | 226 | 253 | 260 | 960 | 289 | 288 | 276 | 335 | 222 | 139 |
| 17 | 81 | 403 | 252 | 260 | 237 | 1,110 | 272 | 208 | 241 | 264 | 205 | 126 |
| 18 | 99 | 388 | 467 | 245 | 252 | 1,030 | 315 | 182 | 237 | 272 | 252 | 121 |
| 19 | 267 | 153 | 400 | 202 | 276 | 796 | 675 | 176 | 219 | 874 | 226 | 148 |
| 20 | 1,010 | 462 | 350 | 212 | 1,090 | 728 | 393 | 179 | 205 | 530 | 198 | 357 |
| 21 | 412 | 343 | 310 | 222 | 725 | 685 | 422 | 192 | 192 | 2,220 | 186 | 628 |
| 22 | 212 | 329 | 280 | 281 | 546 | 617 | 367 | 208 | 179 | 1,770 | 189 | 745 |
| 23 | 3,090 | 298 | 260 | 324 | 565 | 577 | 362 | 216 | 267 | 1,630 | 177 | 278 |
| 24 | 1,670 | 280 | 245 | 343 | 750 | 552 | 302 | 279 | 451 | 1,510 | 173 | 206 |
| 25 | 678 | 270 | 252 | 1,340 | 558 | 515 | 298 | 310 | 216 | 896 | 162 | 164 |
| 26 | 521 | 260 | 272 | 948 | 480 | 492 | 276 | 212 | 412 | 707 | 161 | 161 |
| 27 | 474 | 300 | 249 | 468 | 492 | 486 | 264 | 252 | 2,950 | 617 | 151 | 146 |
| 28 | 1,410 | 636 | 241 | 413 | 474 | 452 | 260 | 260 | 1,260 | 546 | 141 | 142 |
| 29 | 864 | 610 | 260 | 372 | 424 | 424 | 252 | 198 | 533 | 498 | 156 | 150 |
| 30 | 617 | 413 | 249 | 377 | 424 | 424 | 241 | 182 | 372 | 480 | 156 | 136 |
| 31 | 503 | 249 | 424 | 435 | 435 | 435 | 170 | 170 | 424 | 424 | 148 | |
| Month | Observed | | | Diversion | | Adjusted for diversion | | | | | | |
| | Maximum | Minimum | Mean | (Mean) | Mean | Per square mile | Run-off in inches | | | | | |
| October..... | 3,090 | 81 | 442 | 10.8 | 453 | 1.41 | 1.63 | | | | | |
| November..... | 1,120 | 260 | 414 | 10.4 | 424 | 1.32 | 1.47 | | | | | |
| December..... | 467 | 216 | 286 | 9.94 | 296 | .919 | 1.06 | | | | | |
| January..... | 1,340 | 202 | 364 | 9.73 | 374 | 1.16 | 1.34 | | | | | |
| February..... | 1,090 | 237 | 424 | 9.91 | 434 | 1.35 | 1.41 | | | | | |
| March..... | 1,530 | 315 | 553 | 10.3 | 563 | 1.75 | 2.02 | | | | | |
| April..... | 675 | 241 | 354 | 10.6 | 365 | 1.13 | 1.26 | | | | | |
| May..... | 336 | 170 | 217 | 10.4 | 227 | .705 | .81 | | | | | |
| June..... | 3,070 | 136 | 498 | 11.1 | 509 | 1.58 | 1.76 | | | | | |
| July..... | 3,120 | 176 | 670 | 11.1 | 681 | 2.11 | 2.43 | | | | | |
| August..... | 633 | 141 | 259 | 11.3 | 270 | .839 | .97 | | | | | |
| September..... | 745 | 121 | 198 | 10.7 | 209 | .649 | .72 | | | | | |
| The year..... | 3,120 | 81 | 390 | 10.5 | 400 | 1.24 | 16.88 | | | | | |

Muddy Creek at Castle Fin, Pa.

Location.— Water-stage recorder, lat. 39°46'25", long. 76°19'00", 1 mile below Castle Fin, York County, and 2 3/4 miles above mouth. Zero of gage is 175.42 feet above mean sea level (preliminary levels of 1910).

Drainage area.— 133 square miles.

Records available.— October 1928 to September 1938 (discontinued).

Extremes.— Maximum discharge during year, 5,440 second-feet June 27 (gage height, 9.65 feet); minimum, 12 second-feet July 17 (gage height, 1.17 feet); minimum daily discharge, 66 second-feet Sept. 17.

1928-38: Maximum discharge, 16,600 second-feet Aug. 23, 1933 (gage height, 21.11 feet, from floodmark in gage shelter), from rating curve extended on basis of computed discharge over power dam upstream; minimum gage height, 0.90 foot Nov. 29, 1930 (discharge not determined); minimum daily discharge observed, 20 second-feet July 29, 1931.

Remarks.— Records fair. Regulation from operation of hydroelectric plant upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|-------|---------|---------|------|-----------------|-------------------|------|-----|-------|------|------|-------|
| 1 | 81 | 153 | 190 | 159 | 162 | 165 | 178 | 148 | 139 | 113 | 143 | 276 |
| 2 | 84 | 150 | 190 | 168 | 148 | 162 | 168 | 159 | 117 | 112 | 153 | 110 |
| 3 | 71 | 148 | 184 | 150 | 153 | 159 | 162 | 128 | 142 | 100 | 130 | 101 |
| 4 | 88 | 148 | 181 | 159 | 148 | 162 | 165 | 159 | 139 | 111 | 170 | 98 |
| 5 | 88 | 145 | 184 | 162 | 148 | 168 | 159 | 128 | 139 | 89 | 128 | 94 |
| 6 | 99 | 136 | 193 | 153 | 153 | 174 | 162 | 139 | 150 | 68 | 168 | 96 |
| 7 | 94 | 142 | 190 | 174 | 162 | 168 | 150 | 136 | 115 | 82 | 158 | 93 |
| 8 | 87 | 136 | 184 | 171 | 156 | 162 | 171 | 136 | 203 | 78 | 394 | 94 |
| 9 | 80 | 133 | 181 | 159 | 153 | 159 | 196 | 153 | 123 | 89 | 186 | 91 |
| 10 | 89 | 130 | 184 | 156 | 148 | 148 | 174 | 142 | 133 | 89 | 143 | 85 |
| 11 | 85 | 130 | 193 | 165 | 142 | 162 | 168 | 139 | 128 | 83 | 130 | 91 |
| 12 | 84 | 130 | 193 | 159 | 150 | 168 | 162 | 117 | 148 | 562 | 125 | 109 |
| 13 | 81 | 2,150 | 187 | 156 | 150 | 159 | 162 | 133 | 165 | 111 | 118 | 87 |
| 14 | 84 | 485 | 213 | 150 | 150 | 159 | 153 | 148 | 139 | 75 | 109 | 89 |
| 15 | 90 | 353 | 203 | 150 | 153 | 317 | 153 | 174 | 128 | 399 | 123 | 76 |
| 16 | 82 | 299 | 178 | 159 | 142 | 253 | 153 | 150 | 107 | 116 | 104 | 103 |
| 17 | 81 | 274 | 174 | 150 | 142 | 246 | 153 | 139 | 123 | 96 | 207 | 66 |
| 18 | 86 | 253 | 187 | 156 | 133 | 236 | 206 | 148 | 123 | 110 | 332 | 92 |
| 19 | 150 | 240 | 174 | 128 | 153 | 213 | 226 | 123 | 120 | 145 | 142 | 114 |
| 20 | 213 | 240 | 165 | 162 | 270 | 210 | 178 | 150 | 139 | 275 | 123 | 194 |
| 21 | 115 | 226 | 162 | 148 | 213 | 203 | 162 | 148 | 112 | 662 | 120 | 203 |
| 22 | 96 | 213 | 162 | 156 | 184 | 196 | 159 | 216 | 125 | 539 | 109 | 138 |
| 23 | 1,350 | 206 | 159 | 153 | 200 | 190 | 159 | 156 | 115 | 652 | 116 | 114 |
| 24 | 270 | 200 | 153 | 153 | 196 | 184 | 156 | 150 | 128 | 352 | 100 | 114 |
| 25 | 190 | 200 | 159 | 253 | 184 | 174 | 162 | 159 | 125 | 240 | 78 | 99 |
| 26 | 165 | 200 | 162 | 200 | 181 | 187 | 150 | 159 | 672 | 200 | 94 | 105 |
| 27 | 193 | 203 | 153 | 162 | 178 | 181 | 148 | 190 | 1,050 | 181 | 94 | 84 |
| 28 | 302 | 226 | 162 | 184 | 171 | 174 | 139 | 159 | 197 | 160 | 91 | 90 |
| 29 | 203 | 216 | 165 | 190 | 174 | 174 | 150 | 150 | 152 | 182 | 109 | 84 |
| 30 | 178 | 200 | 162 | 184 | 171 | 171 | 150 | 153 | 118 | 171 | 98 | 80 |
| 31 | 162 | 153 | 159 | 159 | 181 | 181 | 145 | 145 | 143 | 98 | 98 | |
| Month | | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | |
| October..... | | 1,350 | 71 | 165 | 1.24 | 1.43 | | | | | | |
| November..... | | 2,150 | 130 | 269 | 2.02 | 2.25 | | | | | | |
| December..... | | 213 | 153 | 177 | 1.33 | 1.53 | | | | | | |
| January..... | | 253 | 128 | 164 | 1.23 | 1.42 | | | | | | |
| February..... | | 270 | 133 | 165 | 1.24 | 1.29 | | | | | | |
| March..... | | 317 | 148 | 188 | 1.41 | 1.63 | | | | | | |
| April..... | | 226 | 139 | 164 | 1.23 | 1.37 | | | | | | |
| May..... | | 216 | 117 | 149 | 1.12 | 1.29 | | | | | | |
| June..... | | 1,050 | 107 | 184 | 1.38 | 1.54 | | | | | | |
| July..... | | 662 | 68 | 206 | 1.55 | 1.79 | | | | | | |
| August..... | | 394 | 78 | 141 | 1.06 | 1.22 | | | | | | |
| September..... | | 276 | 66 | 109 | .820 | .91 | | | | | | |
| The year..... | | 2,150 | 66 | 173 | 1.30 | 17.67 | | | | | | |

POTOMAC RIVER BASIN

Evitts Creek near Bedford Valley, Pa.

Location.- Water-stage recorder and concrete control, lat. $39^{\circ}47'23''$, long. $78^{\circ}38'48''$, 2 miles upstream from Thomas W. Koon Dam, 3 miles south of Bedford Valley post office, Bedford County, and 7 miles above Rock Gully Creek.

Drainage area.- 30.2 square miles.
Records available.- September 1932 to September 1938.

Records available.—September 1932 to September 1938.
Extremes.—Maximum discharge during year, 1,030 second-feet Oct. 28 (gage height, 3.58 feet), from rating curve extended above 400 second-feet; minimum, 2.9 second-feet Sept. 6, 7 (gage height, 1.10 feet).
Discharge.—Maximum discharge, about 5 240 second-feet Mar. 17, 1936 (gage height, 2.90 feet).

Maximum stage known, about 8 feet, from floodmark, date unknown (discharge not determined).

Remarks.- Records good except those above 400 second-feet and those for periods of ice effect, Dec. 9-15, Jan. 10, 18, 19, 26-29 (computed on basis of gage heights, weather records, and records for nearby streams), which are fair. Records furnished by U. S. Geological Survey, Washington, D. C.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|------|------|------|------|---------|---------|------|-----------------|-------------------|------|------|-------|
| 1 | 4.4 | 69 | 16 | 25 | 33 | 22 | 38 | 18 | 20 | 7.1 | 16 | 6.8 |
| 2 | 4.2 | 57 | 15 | 23 | 30 | 21 | 35 | 17 | 27 | 8.0 | 14 | 4.4 |
| 3 | 4.6 | 46 | 14 | 21 | 30 | 22 | 33 | 16 | 36 | 6.8 | 11 | 3.8 |
| 4 | 8.0 | 40 | 14 | 20 | 30 | 18 | 50 | 16 | 22 | 6.0 | 11 | 3.4 |
| 5 | 12 | 35 | 15 | 19 | 28 | 20 | 50 | 15 | 21 | 5.5 | 9.8 | 3.2 |
| 6 | 13 | 32 | 16 | 18 | 30 | 22 | 28 | 15 | 21 | 5.2 | 8.4 | 2.9 |
| 7 | 8.0 | 28 | 14 | 26 | 46 | 19 | 27 | 14 | 18 | 5.2 | 9.8 | 3.2 |
| 8 | 5.7 | 26 | 15 | 21 | 30 | 18 | 38 | 13 | 18 | 4.8 | 8.4 | 8.2 |
| 9 | 6.5 | 24 | 12 | 17 | 28 | 17 | 47 | 15 | 18 | 4.8 | 7.7 | 4.4 |
| 10 | 18 | 22 | 10 | 18 | 30 | 17 | 45 | 14 | 14 | 4.8 | 9.8 | 4.6 |
| 11 | 11 | 20 | 10 | 17 | 26 | 17 | 33 | 14 | 15 | 4.4 | 14 | 4.0 |
| 12 | 8.0 | 20 | 10 | 17 | 25 | 21 | 33 | 12 | 14 | 5.2 | 6.7 | 5.4 |
| 13 | 6.8 | 73 | 10 | 18 | 53 | 20 | 32 | 12 | 14 | 4.6 | 6.8 | 6.5 |
| 14 | 6.2 | 40 | 12 | 16 | 49 | 68 | 30 | 22 | 12 | 4.4 | 6.5 | 5.0 |
| 15 | 5.7 | 30 | 12 | 15 | 36 | 153 | 30 | 28 | 12 | 5.7 | 5.7 | 4.8 |
| 16 | 5.5 | 27 | 17 | 15 | 34 | 89 | 28 | 21 | 11 | 5.0 | 5.5 | 4.2 |
| 17 | 5.2 | 26 | 34 | 16 | 33 | 126 | 28 | 15 | 12 | 4.2 | 5.7 | 7.1 |
| 18 | 5.5 | 24 | 117 | 14 | 34 | 145 | 33 | 22 | 11 | 4.2 | 5.5 | 6.5 |
| 19 | 23 | 23 | 52 | 13 | 34 | 96 | 38 | 45 | 10 | 5.2 | 4.8 | 5.2 |
| 20 | 54 | 23 | 41 | 14 | 37 | 82 | 30 | 57 | 9.4 | 29 | 4.6 | 5.5 |
| 21 | 25 | 21 | 38 | 14 | 30 | 67 | 27 | 50 | 9.0 | 48 | 4.4 | 6.2 |
| 22 | 18 | 19 | 35 | 16 | 28 | 57 | 26 | 74 | 8.4 | 95 | 4.4 | 5.5 |
| 23 | 25 | 18 | 32 | 17 | 28 | 52 | 23 | 50 | 12 | 55 | 4.2 | 8.2 |
| 24 | 21 | 17 | 28 | 17 | 28 | 49 | 23 | 49 | 9.0 | 38 | 4.0 | 4.4 |
| 25 | 16 | 16 | 28 | 326 | 25 | 41 | 22 | 41 | 8.7 | 27 | 3.8 | 3.6 |
| 26 | 15 | 17 | 25 | 80 | 25 | 42 | 22 | 35 | 9.8 | 16 | 3.6 | 3.4 |
| 27 | 54 | 17 | 22 | 55 | 25 | 37 | 21 | 35 | 9.8 | 21 | 3.8 | 3.4 |
| 28 | 726 | 21 | 25 | 45 | 20 | 34 | 20 | 30 | 12 | 42 | 3.6 | 3.4 |
| 29 | 359 | 21 | 27 | 40 | | 30 | 20 | 27 | 8.4 | 20 | 3.6 | 3.4 |
| 30 | 154 | 17 | 25 | 42 | | 39 | 19 | 24 | 7.4 | 17 | 3.2 | 3.4 |
| 31 | 93 | | 24 | 41 | | 52 | | 22 | | 15 | 5.8 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | |
| October..... | | | | | 726 | 4.2 | 55.5 | 1.84 | 2.12 | | | |
| November..... | | | | | 73 | 16 | 29.0 | .960 | 1.07 | | | |
| December..... | | | | | 117 | 10 | 24.7 | .818 | .94 | | | |
| January..... | | | | | 326 | 13 | 34.1 | 1.13 | 1.30 | | | |
| February..... | | | | | 53 | 20 | 31.6 | 1.05 | 1.09 | | | |
| March..... | | | | | 153 | 17 | 46.8 | 1.62 | 1.87 | | | |
| April..... | | | | | 47 | 19 | 29.6 | .980 | 1.09 | | | |
| May..... | | | | | 74 | 12 | 27.0 | .894 | 1.03 | | | |
| June..... | | | | | 36 | 7.4 | 14.2 | .470 | .52 | | | |
| July..... | | | | | 95 | 4.2 | 16.9 | .560 | .65 | | | |
| August..... | | | | | 16 | 3.2 | 7.04 | .233 | .27 | | | |
| September..... | | | | | 8.2 | 2.9 | 4.70 | .158 | .17 | | | |
| The year..... | | | | | 726 | 2.9 | 27.0 | .894 | 12.12 | | | |

POTOMAC RIVER BASIN

Licking Creek near Sylvan, Pa.

Location.— Chain gage, lat. 39°43'20", long. 78°03'35", (revised) at highway bridge 200 feet north of Pennsylvania-Maryland State line, 3 miles southwest of Sylvan, Franklin County, and 10 miles above mouth. Zero of gage is 434.16 feet above mean sea level (general adjustment of 1907).

Drainage area.— 158 square miles.

Records available.— June 1930 to September 1938.

Extremes.— Maximum discharge during year, 4,800 second-feet Oct. 28 (gage height, 10.0 feet, from graph based on gage readings); minimum, 9.1 second-feet Aug. 30 (gage height, 1.00 foot).

1930-38: Maximum discharge, 20,700 second-feet Mar. 18, 1936 (gage height, 17.4 feet, from floodmark), from rating curve extended on basis of contracted-opening determination; minimum, 3.0 second-feet Aug. 8, 1930 (gage height, 0.64 foot).

Remarks.— Records poor. Discharge for periods of ice effect, Dec. 7-18, Jan. 10-13, determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|---------|---------|------|-----------------|-------------------|-------|------|-----|------|------|------|-------|
| 1 | 21 | 382 | 78 | 105 | 98 | 76 | 157 | 58 | 109 | 26 | 90 | 36 |
| 2 | 18 | 292 | 71 | 132 | 81 | 95 | 116 | 55 | 99 | 24 | 101 | 43 |
| 3 | 18 | 246 | 59 | 116 | 78 | 95 | 99 | 52 | 140 | 24 | 76 | 24 |
| 4 | 20 | 204 | 55 | 109 | 90 | 92 | 101 | 50 | 109 | 23 | 48 | 15 |
| 5 | 28 | 166 | 71 | 106 | 72 | 80 | 103 | 52 | 92 | 20 | 42 | 16 |
| 6 | 51 | 157 | 70 | 90 | 76 | 90 | 99 | 51 | 85 | 19 | 36 | 12 |
| 7 | 51 | 140 | 60 | 157 | 124 | 80 | 95 | 46 | 72 | 17 | 40 | 12 |
| 8 | 31 | 124 | 47 | 194 | 109 | 69 | 99 | 43 | 67 | 16 | 30 | 17 |
| 9 | 24 | 116 | 43 | 132 | 95 | 63 | 124 | 44 | 55 | 16 | 26 | 31 |
| 10 | 29 | 106 | 42 | 130 | 98 | 61 | 132 | 44 | 51 | 14 | 74 | 23 |
| 11 | 56 | 96 | 39 | 120 | 173 | 61 | 116 | 46 | 50 | 12 | 42 | 17 |
| 12 | 55 | 91 | 38 | 110 | 91 | 63 | 103 | 42 | 55 | 19 | 44 | 16 |
| 13 | 42 | 384 | 37 | 100 | 104 | 71 | 101 | 38 | 48 | 34 | 38 | 13 |
| 14 | 35 | 522 | 36 | 94 | 124 | 110 | 95 | 39 | 44 | 25 | 27 | 17 |
| 15 | 36 | 329 | 35 | 95 | 124 | 1,000 | 95 | 63 | 43 | 23 | 22 | 26 |
| 16 | 29 | 257 | 36 | 78 | 109 | 755 | 92 | 72 | 37 | 17 | 17 | 23 |
| 17 | 27 | 204 | 50 | 96 | 99 | 677 | 90 | 53 | 36 | 15 | 22 | 28 |
| 18 | 26 | 184 | 250 | 80 | 109 | 716 | 91 | 46 | 35 | 14 | 234 | 35 |
| 19 | 126 | 157 | 470 | 81 | 109 | 569 | 116 | 77 | 34 | 13 | 90 | 28 |
| 20 | 569 | 140 | 329 | 60 | 175 | 439 | 103 | 201 | 32 | 17 | 42 | 48 |
| 21 | 439 | 124 | 246 | 76 | 194 | 355 | 90 | 607 | 29 | 56 | 30 | 146 |
| 22 | 246 | 116 | 194 | 70 | 184 | 268 | 85 | 458 | 29 | 715 | 24 | 82 |
| 23 | 678 | 101 | 166 | 71 | 184 | 235 | 81 | 274 | 29 | 768 | 20 | 61 |
| 24 | 795 | 83 | 140 | 74 | 166 | 204 | 72 | 658 | 31 | 312 | 19 | 50 |
| 25 | 382 | 74 | 124 | 127 | 148 | 166 | 67 | 470 | 29 | 148 | 15 | 41 |
| 26 | 257 | 92 | 124 | 235 | 124 | 157 | 68 | 329 | 76 | 98 | 14 | 30 |
| 27 | 241 | 92 | 106 | 194 | 124 | 157 | 64 | 304 | 55 | 67 | 14 | 27 |
| 28 | 3,730 | 102 | 102 | 157 | 109 | 132 | 61 | 235 | 51 | 227 | 12 | 24 |
| 29 | 2,370 | 101 | 106 | 132 | | 116 | 60 | 184 | 37 | 246 | 10 | 24 |
| 30 | 925 | 98 | 101 | 157 | | 116 | 58 | 157 | 29 | 194 | 9.9 | 24 |
| 31 | 535 | 96 | 140 | 166 | | 166 | 124 | 124 | | 132 | 11 | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October..... | 3,730 | 18 | 384 | 2.43 | 2.80 | | | | | | | |
| November..... | 522 | 74 | 176 | 1.11 | 1.24 | | | | | | | |
| December..... | 470 | 35 | 110 | .696 | .80 | | | | | | | |
| January..... | 235 | 60 | 117 | .741 | .85 | | | | | | | |
| February..... | 194 | 72 | 120 | .759 | .79 | | | | | | | |
| March..... | 1,000 | 61 | 237 | 1.50 | 1.73 | | | | | | | |
| April..... | 157 | 58 | 94.4 | .597 | .67 | | | | | | | |
| May..... | 658 | 38 | 160 | 1.01 | 1.16 | | | | | | | |
| June..... | 140 | 29 | 56.3 | .356 | .40 | | | | | | | |
| July..... | 788 | 12 | 109 | .690 | .80 | | | | | | | |
| August..... | 234 | 9.9 | 42.6 | .270 | .31 | | | | | | | |
| September..... | 146 | 12 | 33.0 | .209 | .23 | | | | | | | |
| The year..... | 3,730 | 9.9 | 137 | .867 | 11.78 | | | | | | | |

OHIO RIVER BASIN

Allegheny River at Larabee, Pa.

Location.- Wire-weight gage, lat. 41°54'05", long. 78°23'05", at bridge on U. S. Highway 6 at Larabee, McKean County, 1 mile below mouth of Potato Creek and 3½ miles south of Eldred. Zero of gage is 1,423.39 feet above mean sea level (general adjustment of 1912).

Drainage area.- 541 square miles.

Records available.- October 1920 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; June 1915 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 14 years (1920-21, 1925-38), 815 second-feet.

Extremes.- Maximum discharge during year, 4,990 second-feet Mar. 6 (gage height, 12.8 feet, from graph based on gage readings); minimum, 12 second-feet Sept. 6, 7 (gage height, 0.44 foot).

1915-38: Maximum discharge, 8,210 second-feet Nov. 18, 1927 (gage height, 17.6 feet, from graph based on gage readings), from rating curve extended above 4,300 second-feet; minimum, about 0.1 second-foot July 25, 1934 (gage height, 0.22 foot); minimum daily discharge, 3.5 second-feet Aug. 8, 1934.

Remarks.- Records fair. Discharge for periods of ice effect, Dec. 8-18, Jan. 10-24, Jan. 27 to Feb. 6, Feb. 28 to Mar. 4, determined from gage heights, weather records and by comparison with records for stations downstream. Gage read twice daily. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|-------|---------|-------|-------|-------|-----------------|-----|-------------------|-------|------|-------|
| 1 | 77 | 1,590 | 748 | 1,390 | 1,000 | 550 | 1,140 | 721 | 327 | 1,010 | 200 | 16 |
| 2 | 77 | 1,280 | 667 | 1,510 | 950 | 600 | 980 | 640 | 315 | 980 | 178 | 15 |
| 3 | 77 | 1,100 | 614 | 1,100 | 1,000 | 500 | 920 | 562 | 511 | 776 | 139 | 15 |
| 4 | 75 | 920 | 667 | 980 | 1,050 | 420 | 861 | 536 | 363 | 614 | 105 | 15 |
| 5 | 77 | 776 | 614 | 861 | 1,150 | 812 | 804 | 486 | 268 | 486 | 200 | 14 |
| 6 | 119 | 721 | 614 | 748 | 1,400 | 3,960 | 748 | 436 | 256 | 411 | 147 | 12 |
| 7 | 230 | 614 | 536 | 776 | 2,900 | 4,570 | 694 | 387 | 234 | 339 | 102 | 15 |
| 8 | 261 | 588 | 470 | 562 | 3,040 | 4,070 | 694 | 339 | 245 | 303 | 92 | 15 |
| 9 | 102 | 640 | 420 | 387 | 2,740 | 2,440 | 861 | 339 | 200 | 315 | 78 | 15 |
| 10 | 98 | 588 | 380 | 320 | 3,100 | 1,650 | 1,040 | 387 | 165 | 562 | 69 | 15 |
| 11 | 98 | 511 | 350 | 300 | 2,640 | 1,240 | 1,060 | 375 | 234 | 387 | 92 | 19 |
| 12 | 95 | 436 | 330 | 310 | 2,110 | 1,100 | 2,710 | 315 | 268 | 461 | 143 | 27 |
| 13 | 91 | 1,150 | 310 | 310 | 3,320 | 1,070 | 3,760 | 280 | 268 | 303 | 75 | 70 |
| 14 | 84 | 1,750 | 270 | 300 | 4,750 | 1,510 | 4,150 | 268 | 351 | 256 | 48 | 284 |
| 15 | 87 | 1,550 | 280 | 290 | 4,510 | 1,470 | 4,210 | 303 | 268 | 363 | 44 | 2,230 |
| 16 | 80 | 1,470 | 350 | 280 | 3,590 | 1,350 | 3,860 | 399 | 222 | 303 | 39 | 994 |
| 17 | 84 | 1,320 | 750 | 270 | 2,890 | 1,750 | 3,100 | 339 | 200 | 211 | 49 | 461 |
| 18 | 77 | 1,280 | 2,700 | 260 | 2,490 | 1,840 | 2,590 | 245 | 189 | 291 | 83 | 351 |
| 19 | 373 | 1,010 | 4,690 | 250 | 3,150 | 1,710 | 3,150 | 245 | 170 | 256 | 54 | 291 |
| 20 | 521 | 920 | 4,390 | 240 | 3,040 | 1,710 | 2,690 | 280 | 143 | 176 | 37 | 280 |
| 21 | 373 | 832 | 3,700 | 240 | 1,840 | 1,630 | 2,240 | 315 | 126 | 153 | 32 | 268 |
| 22 | 373 | 748 | 2,590 | 250 | 1,880 | 1,550 | 2,160 | 363 | 109 | 155 | 24 | 222 |
| 23 | 1,080 | 640 | 1,930 | 260 | 1,590 | 1,710 | 1,930 | 327 | 118 | 178 | 21 | 484 |
| 24 | 1,660 | 536 | 1,390 | 300 | 1,390 | 2,590 | 1,670 | 673 | 111 | 211 | 21 | 461 |
| 25 | 1,400 | 511 | 1,210 | 1,260 | 1,180 | 2,440 | 1,510 | 832 | 122 | 178 | 20 | 339 |
| 26 | 890 | 536 | 1,040 | 1,980 | 950 | 2,200 | 1,320 | 748 | 590 | 147 | 17 | 268 |
| 27 | 1,100 | 640 | 832 | 1,400 | 861 | 1,880 | 1,100 | 667 | 2,820 | 116 | 19 | 234 |
| 28 | 1,730 | 640 | 804 | 1,100 | 700 | 1,550 | 980 | 588 | 3,150 | 139 | 17 | 222 |
| 29 | 3,170 | 890 | 694 | 900 | | 1,320 | 890 | 562 | 2,110 | 189 | 15 | 178 |
| 30 | 3,320 | 776 | 640 | 950 | | 1,210 | 804 | 511 | 2,200 | 189 | 19 | 157 |
| 31 | 2,400 | | 588 | 1,100 | | 1,070 | | 387 | | 211 | 17 | |
| Month | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | | | |
| October | 3,320 | | 75 | | 654 | | 1.21 | | 1.40 | | | |
| November | 1,750 | | 436 | | 899 | | 1.66 | | 1.85 | | | |
| December | 4,690 | | 270 | | 1,147 | | 2.12 | | 2.44 | | | |
| January | 1,980 | | 240 | | 683 | | 1.26 | | 1.45 | | | |
| February | 4,750 | | 700 | | 2,186 | | 4.04 | | 4.21 | | | |
| March | 4,570 | | 420 | | 1,724 | | 3.19 | | 3.68 | | | |
| April | 4,210 | | 694 | | 1,821 | | 3.37 | | 3.76 | | | |
| May | 832 | | 245 | | 447 | | .826 | | .95 | | | |
| June | 3,150 | | 109 | | 555 | | 1.03 | | 1.15 | | | |
| July | 1,010 | | 116 | | 344 | | .636 | | .73 | | | |
| August | 200 | | 15 | | 70.8 | | .131 | | .15 | | | |
| September | 2,230 | | 12 | | 266 | | .492 | | .55 | | | |
| The year | 4,750 | | 12 | | 889 | | 1.64 | | 22.32 | | | |

Allegheny River at Franklin, Pa.

Location.— Water-stage recorder, lat. 41°23'25", long. 79°49'10", at Eighth Street Bridge, at Franklin, Venango County, 1,000 feet below mouth of French Creek. Zero of gage is 955.92 feet (revised) above mean sea level (preliminary levels of 1935).

Drainage area.— 5,982 square miles.

Records available.— October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; April 1905 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 20 years (1918-38), 9,750 second-feet.

Extremes.— Maximum discharge during year, 67,600 second-feet Feb. 14 (gage height, 13.86 feet); minimum daily discharge, about 900 second-feet Sept. 8, 9, 1905-38: Maximum discharge, 191,000 second-feet Mar. 28, 1913, from rating curve extended above 110,000 second-feet; maximum gage height, 28.0 feet, present datum, Feb. 27, 1917 (caused by ice jam); minimum discharge, 334 second-feet July 30, 1934 (gage height, 1.63 feet).
Maximum free-flow stage known, 25.0 feet, present datum, Mar. 17, 1885 (discharge, 196,000 second-feet, from rating curve extended above 110,000 second-feet).

Remarks.— Records good except those for periods of ice effect, Dec. 7-18, Jan. 9-23 (determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations upstream and downstream), and those for period of partially plugged intake, Sept. 4-9 (determined by comparison with records for station at Parkers Landing, which are fair).

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|---------|--------|-----------------|-------------------|--------|--------|-------|--------|-------|-------|--------|
| 1 | 1,190 | 11,400 | 15,500 | 18,000 | 18,200 | 10,200 | 12,300 | 7,270 | 4,820 | 6,740 | 4,670 | 1,180 |
| 2 | 1,180 | 9,150 | 10,600 | 31,800 | 15,500 | 10,400 | 11,900 | 6,560 | 4,120 | 5,890 | 5,260 | 1,160 |
| 3 | 1,180 | 7,880 | 8,380 | 28,600 | 14,500 | 11,400 | 10,600 | 6,060 | 3,990 | 5,260 | 5,750 | 1,120 |
| 4 | 1,150 | 6,910 | 7,270 | 21,100 | 17,700 | 11,000 | 9,750 | 6,220 | 3,860 | 4,390 | 4,390 | 1,050 |
| 5 | 1,220 | 6,220 | 6,910 | 16,000 | 18,300 | 13,100 | 9,550 | 7,630 | 3,860 | 3,740 | 4,680 | 1,000 |
| 6 | 1,420 | 5,730 | 6,580 | 12,300 | 18,800 | 51,600 | 9,150 | 6,740 | 3,540 | 3,140 | 5,860 | 1,000 |
| 7 | 1,500 | 5,420 | 5,800 | 11,200 | 31,200 | 54,100 | 8,960 | 5,730 | 3,260 | 2,730 | 8,380 | 970 |
| 8 | 1,450 | 5,110 | 4,500 | 9,550 | 35,700 | 43,200 | 10,000 | 5,110 | 3,070 | 2,440 | 7,830 | 900 |
| 9 | 1,340 | 5,260 | 3,300 | 6,500 | 33,500 | 51,100 | 24,200 | 4,670 | 2,910 | 2,290 | 5,730 | 900 |
| 10 | 1,360 | 6,590 | 3,000 | 4,800 | 48,600 | 24,100 | 33,800 | 4,530 | 2,760 | 2,690 | 4,580 | 1,210 |
| 11 | 1,430 | 6,580 | 2,900 | 4,800 | 43,200 | 18,800 | 32,400 | 4,670 | 2,650 | 3,120 | 3,990 | 1,310 |
| 12 | 1,470 | 5,890 | 3,000 | 5,500 | 35,000 | 15,500 | 35,900 | 4,820 | 2,780 | 2,710 | 5,860 | 1,500 |
| 13 | 1,430 | 6,480 | 2,900 | 5,500 | 36,800 | 14,000 | 38,000 | 4,530 | 3,050 | 3,160 | 5,560 | 1,860 |
| 14 | 1,390 | 10,500 | 2,700 | 5,000 | 65,800 | 17,200 | 35,200 | 4,260 | 3,440 | 3,160 | 5,260 | 2,250 |
| 15 | 1,370 | 13,500 | 2,700 | 4,800 | 62,400 | 21,100 | 29,800 | 4,260 | 3,610 | 3,050 | 3,990 | 8,890 |
| 16 | 1,370 | 13,000 | 3,000 | 4,500 | 48,500 | 19,900 | 24,700 | 4,260 | 3,610 | 3,190 | 3,320 | 19,400 |
| 17 | 1,360 | 13,500 | 8,000 | 4,200 | 34,200 | 30,200 | 21,100 | 4,120 | 3,120 | 2,800 | 3,420 | 19,400 |
| 18 | 1,500 | 14,000 | 41,000 | 3,800 | 28,500 | 33,100 | 20,500 | 4,260 | 2,730 | 2,650 | 3,320 | 12,400 |
| 19 | 4,910 | 12,600 | 61,700 | 3,300 | 45,400 | 28,500 | 19,400 | 4,120 | 2,480 | 2,420 | 2,870 | 9,550 |
| 20 | 8,960 | 10,800 | 41,600 | 3,000 | 50,100 | 23,500 | 24,100 | 4,260 | 2,270 | 2,270 | 2,520 | 8,250 |
| 21 | 7,820 | 9,350 | 32,400 | 3,200 | 40,900 | 19,900 | 20,500 | 4,260 | 2,110 | 2,210 | 2,270 | 7,090 |
| 22 | 6,590 | 8,540 | 28,600 | 3,800 | 31,800 | 17,200 | 17,700 | 4,820 | 1,960 | 2,030 | 2,110 | 6,560 |
| 23 | 8,480 | 7,820 | 22,900 | 4,400 | 26,600 | 15,000 | 16,000 | 4,960 | 1,860 | 3,250 | 1,940 | 9,930 |
| 24 | 13,000 | 7,090 | 18,800 | 5,260 | 22,900 | 16,000 | 14,500 | 5,420 | 1,920 | 4,730 | 1,810 | 16,000 |
| 25 | 14,000 | 6,740 | 16,000 | 18,800 | 18,800 | 17,700 | 12,300 | 6,910 | 1,860 | 6,740 | 1,680 | 16,000 |
| 26 | 11,200 | 7,090 | 15,500 | 28,500 | 15,500 | 17,700 | 11,000 | 8,190 | 2,580 | 7,100 | 1,550 | 12,000 |
| 27 | 9,350 | 9,170 | 13,500 | 21,100 | 14,000 | 16,600 | 9,750 | 7,270 | 11,500 | 5,260 | 1,470 | 9,350 |
| 28 | 11,200 | 13,000 | 11,600 | 15,000 | 12,100 | 14,500 | 8,760 | 6,740 | 13,500 | 3,860 | 1,390 | 7,450 |
| 29 | 14,000 | 16,800 | 10,400 | 12,100 | 12,600 | 12,600 | 8,190 | 6,060 | 11,200 | 5,260 | 1,310 | 5,730 |
| 30 | 15,500 | 16,600 | 9,350 | 11,900 | 11,400 | 7,820 | 5,420 | 8,570 | 6,220 | 1,240 | 4,670 | |
| 31 | 14,000 | 8,960 | 15,000 | 11,200 | 11,200 | | 5,420 | | 4,960 | 1,210 | | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October | 15,500 | 1,150 | 5,261 | 0.879 | 1.01 | | | | | | | |
| November | 16,600 | 5,110 | 9,288 | 1.55 | 1.73 | | | | | | | |
| December | 51,700 | 2,700 | 13,400 | 2.24 | 2.58 | | | | | | | |
| January | 31,800 | 3,000 | 11,060 | 1.85 | 2.13 | | | | | | | |
| February | 65,800 | 12,100 | 31,600 | 5.28 | 5.50 | | | | | | | |
| March | 54,100 | 10,200 | 21,030 | 3.52 | 4.06 | | | | | | | |
| April | 38,000 | 7,820 | 18,250 | 3.05 | 3.40 | | | | | | | |
| May | 8,190 | 4,120 | 5,469 | .914 | 1.05 | | | | | | | |
| June | 13,500 | 1,860 | 4,100 | .685 | .76 | | | | | | | |
| July | 7,100 | 2,030 | 3,854 | .644 | .74 | | | | | | | |
| August | 8,380 | 1,210 | 3,763 | .629 | .72 | | | | | | | |
| September | 19,400 | 900 | 6,369 | 1.06 | 1.18 | | | | | | | |
| The year | 65,800 | 900 | 10,970 | 1.83 | 24.86 | | | | | | | |

Allegheny River at Parkers Landing, Pa.

Location.— Water-stage recorder, lat. 41°06'05", long. 79°40'45", at highway bridge at Parkers Landing, Armstrong County, 1.1 miles below mouth of Clarion River. Zero of gage is 845.14 feet above mean sea level (general adjustment of 1907).

Drainage area.— 7,671 square miles.

Records available.— October 1932 to September 1938.

Extremes.— Maximum discharge during year, 85,700 second-feet Dec. 18; maximum gage height, 14.89 feet Feb. 3 (affected by ice); minimum discharge, 968 second-feet Sept. 10 (gage height, 1.06 feet).

1932-38: Maximum discharge, 149,000 second-feet Jan. 25, 1937; maximum gage height, 27.85 feet Mar. 5, 1934 (affected by ice); minimum discharge, 409 second-feet July 30, 1934 (gage height, 0.67 foot).
Maximum stage known, 29.0 feet Mar. 17, 1865 (discharge, 250,000 second-feet, from rating curve extended above 125,000 second-feet).

Remarks.— Records good except those for periods of ice effect, Dec. 8-17, Jan. 9-23, Jan. 29 to Feb. 6 (determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations upstream), and those for period of recorder failure, Feb. 28 to Mar. 3 (determined by comparison with records for station at Franklin), which are fair. Regulation at low stages from power operations on Clarion River.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|--------|--------|--------|--------|---------|---------|--------|-----------------|--------|-------------------|-------|--------|
| 1 | 1,230 | 15,100 | 16,600 | 18,100 | 23,000 | 13,000 | 15,600 | 8,870 | 6,320 | 10,500 | 5,520 | 1,250 |
| 2 | 1,330 | 12,800 | 13,600 | 34,900 | 20,000 | 13,500 | 15,600 | 8,280 | 5,520 | 10,600 | 6,150 | 1,230 |
| 3 | 1,170 | 10,400 | 10,400 | 34,900 | 19,000 | 15,000 | 13,600 | 7,720 | 5,220 | 8,560 | 6,650 | 1,190 |
| 4 | 1,150 | 9,330 | 9,360 | 28,400 | 22,000 | 14,100 | 12,200 | 7,720 | 5,080 | 6,990 | 5,910 | 1,150 |
| 5 | 1,310 | 8,280 | 8,090 | 21,600 | 24,000 | 16,800 | 11,700 | 9,070 | 4,780 | 5,220 | 5,080 | 1,080 |
| 6 | 1,660 | 7,470 | 8,090 | 16,600 | 24,000 | 60,700 | 11,700 | 9,280 | 4,500 | 4,780 | 6,340 | 1,180 |
| 7 | 1,600 | 6,530 | 7,720 | 14,600 | 38,400 | 70,200 | 12,200 | 7,720 | 4,220 | 4,330 | 6,870 | 1,040 |
| 8 | 1,580 | 6,650 | 5,800 | 12,600 | 45,600 | 54,700 | 14,500 | 6,480 | 4,090 | 3,900 | 5,690 | 986 |
| 9 | 2,000 | 6,800 | 4,300 | 9,000 | 41,200 | 40,500 | 31,000 | 5,680 | 3,740 | 3,490 | 7,530 | 986 |
| 10 | 1,390 | 7,530 | 3,900 | 6,700 | 61,100 | 31,000 | 42,600 | 5,830 | 3,660 | 3,720 | 6,830 | 1,060 |
| 11 | 1,390 | 7,530 | 3,700 | 6,000 | 55,500 | 24,600 | 41,200 | 5,870 | 3,660 | 4,460 | 5,080 | 1,210 |
| 12 | 1,470 | 6,820 | 3,800 | 7,000 | 44,800 | 20,000 | 44,800 | 5,680 | 3,870 | 4,220 | 5,080 | 1,430 |
| 13 | 1,560 | 9,270 | 3,800 | 7,000 | 37,000 | 16,600 | 47,800 | 6,040 | 4,650 | 3,690 | 7,530 | 1,730 |
| 14 | 1,470 | 11,700 | 3,600 | 6,400 | 68,400 | 22,400 | 44,800 | 5,370 | 5,150 | 4,500 | 6,860 | 2,140 |
| 15 | 1,560 | 15,600 | 3,500 | 6,000 | 71,800 | 30,300 | 39,100 | 5,270 | 4,720 | 4,820 | 5,080 | 4,480 |
| 16 | 1,770 | 16,600 | 3,900 | 5,700 | 57,900 | 26,400 | 32,200 | 5,370 | 4,500 | 4,280 | 4,140 | 20,200 |
| 17 | 1,390 | 17,200 | 14,000 | 5,400 | 42,600 | 32,200 | 27,000 | 5,220 | 4,310 | 4,020 | 3,690 | 21,000 |
| 18 | 1,430 | 17,200 | 64,900 | 4,900 | 32,900 | 40,500 | 25,200 | 5,220 | 3,710 | 3,480 | 3,930 | 16,000 |
| 19 | 3,660 | 16,600 | 76,100 | 4,200 | 44,500 | 35,600 | 31,600 | 5,370 | 3,400 | 3,330 | 3,590 | 10,800 |
| 20 | 9,070 | 14,600 | 55,500 | 3,900 | 57,900 | 29,000 | 31,600 | 6,320 | 2,700 | 3,080 | 2,920 | 8,870 |
| 21 | 9,900 | 11,700 | 41,900 | 4,000 | 52,400 | 24,600 | 27,700 | 6,200 | 2,700 | 2,800 | 2,580 | 7,720 |
| 22 | 8,280 | 10,600 | 34,200 | 4,300 | 40,500 | 21,600 | 23,400 | 7,880 | 2,680 | 3,280 | 2,560 | 7,170 |
| 23 | 9,900 | 9,690 | 29,600 | 4,800 | 34,200 | 19,400 | 21,600 | 7,140 | 2,420 | 2,980 | 2,440 | 7,950 |
| 24 | 14,600 | 8,870 | 25,200 | 6,170 | 29,600 | 19,400 | 17,800 | 9,680 | 2,580 | 4,360 | 2,870 | 14,700 |
| 25 | 16,600 | 8,090 | 20,500 | 19,100 | 24,600 | 19,400 | 16,100 | 11,000 | 2,580 | 7,560 | 2,040 | 17,200 |
| 26 | 14,100 | 8,670 | 19,400 | 34,900 | 21,000 | 21,600 | 14,600 | 11,200 | 3,080 | 8,090 | 1,770 | 14,100 |
| 27 | 12,600 | 10,700 | 17,200 | 26,400 | 17,800 | 19,400 | 12,600 | 11,200 | 15,000 | 6,590 | 1,620 | 10,400 |
| 28 | 15,100 | 14,100 | 15,100 | 20,000 | 15,000 | 18,300 | 11,400 | 9,000 | 24,000 | 5,680 | 1,600 | 8,490 |
| 29 | 20,500 | 18,300 | 13,600 | 16,000 | 15,600 | 10,100 | 7,920 | 17,200 | 6,340 | 1,450 | 6,930 | |
| 30 | 21,000 | 20,000 | 12,200 | 15,000 | 14,100 | 10,000 | 6,820 | 12,200 | 8,480 | 1,390 | 5,370 | |
| 31 | 18,800 | | 11,700 | 19,000 | | 14,600 | | 6,320 | | 7,100 | 1,270 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October | | | | | 21,000 | 1,150 | 6,470 | 0.843 | | 0.97 | | |
| November | | | | | 20,000 | 6,530 | 11,490 | 1.50 | | 1.67 | | |
| December | | | | | 76,100 | 3,800 | 18,110 | 2.36 | | 2.72 | | |
| January | | | | | 24,900 | 3,900 | 13,660 | 1.78 | | 2.05 | | |
| February | | | | | 71,800 | 15,000 | 38,100 | 4.97 | | 5.18 | | |
| March | | | | | 70,200 | 13,000 | 26,290 | 3.43 | | 3.95 | | |
| April | | | | | 47,800 | 10,000 | 23,710 | 3.09 | | 3.45 | | |
| May | | | | | 11,200 | 5,220 | 7,314 | .953 | | 1.10 | | |
| June | | | | | 24,000 | 2,420 | 5,741 | .748 | | .83 | | |
| July | | | | | 10,600 | 2,800 | 5,291 | .690 | | .80 | | |
| August | | | | | 9,690 | 1,270 | 4,406 | .674 | | .66 | | |
| September | | | | | 21,000 | 986 | 6,622 | .883 | | .96 | | |
| The year | | | | | 76,100 | 986 | 13,760 | 1.79 | | 24.35 | | |

Ohio River at Sewickley, Pa.

Location.— Water-stage recorder, lat. 40°31'50", long. 80°11'20", 200 feet above highway bridge at Sewickley, Allegheny County, 0.5 mile above mouth of Narrows Run, and 1½ miles above Dashields Dam. Zero of gage is 690.00 feet above mean sea level (general adjustment of 1912).

Drainage area.— 19,500 square miles.

Records available.— October 1933 to September 1938.

Extremes.— Maximum discharge during year, 242,000 second-feet Dec. 19 (gage height, 17.07 feet); minimum, 2,900 second-feet Aug. 31 (gage height, 2.65 feet); minimum daily discharge, 3,380 second-feet Sept. 10.

1933-38: Maximum discharge, 574,000 second-feet Mar. 18, 1936 (gage height, 34.75 feet, from floodmark in gage house); minimum, about 2,000 second-feet July 25, 1934; minimum daily discharge, 2,150 second-feet July 25, 1934.

Remarks.— Records good. Discharge for periods of recorder failure, Nov. 3, 9, 10, determined from trend of hydrographs for stations upstream. Some regulation at low stages from operation of locks upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|-----------|---------|--------|---------|--------|---------|---------|---------|--------|--------|--------|-----------------|--------|-------------------|--|
| 1 | 3,800 | 68,800 | 36,700 | 58,600 | 39,600 | 30,400 | 55,300 | 22,400 | 15,700 | 22,400 | 16,300 | 3,680 | | |
| 2 | 3,540 | 52,300 | 30,400 | 60,400 | 38,600 | 29,600 | 51,300 | 19,600 | 15,700 | 21,000 | 16,700 | 4,220 | | |
| 3 | 3,500 | 40,000 | 24,000 | 68,800 | 35,800 | 31,300 | 40,500 | 17,600 | 15,000 | 18,900 | 14,100 | 3,560 | | |
| 4 | 3,800 | 27,100 | 21,700 | 58,300 | 40,500 | 37,600 | 32,200 | 15,700 | 14,600 | 15,100 | 13,100 | 3,500 | | |
| 5 | 4,430 | 22,200 | 19,600 | 48,300 | 43,400 | 40,500 | 30,400 | 16,300 | 14,100 | 12,100 | 16,300 | 3,620 | | |
| 6 | 5,520 | 20,300 | 17,600 | 37,600 | 42,400 | 75,000 | 28,800 | 18,200 | 13,000 | 10,200 | 17,000 | 3,680 | | |
| 7 | 8,700 | 17,600 | 17,000 | 32,200 | 64,600 | 134,000 | 33,100 | 18,200 | 12,100 | 10,000 | 14,600 | 3,750 | | |
| 8 | 9,400 | 18,200 | 16,100 | 29,600 | 99,400 | 115,000 | 39,700 | 14,200 | 12,100 | 8,600 | 16,300 | 3,860 | | |
| 9 | 8,900 | 18,000 | 12,900 | 23,200 | 79,600 | 88,400 | 75,600 | 12,100 | 15,800 | 9,100 | 18,200 | 3,440 | | |
| 10 | 7,970 | 16,000 | 9,500 | 17,600 | 84,000 | 66,700 | 117,000 | 10,500 | 18,200 | 9,600 | 17,000 | 3,380 | | |
| 11 | 6,240 | 15,100 | 9,700 | 16,300 | 99,400 | 52,300 | 102,000 | 10,800 | 20,300 | 10,400 | 17,600 | 3,500 | | |
| 12 | 6,240 | 14,600 | 9,900 | 17,000 | 88,400 | 44,300 | 96,200 | 11,700 | 21,700 | 12,600 | 15,000 | 4,680 | | |
| 13 | 7,160 | 17,700 | 9,400 | 18,900 | 86,200 | 38,600 | 86,200 | 11,900 | 28,000 | 15,900 | 13,000 | 4,780 | | |
| 14 | 7,520 | 21,700 | 9,400 | 16,300 | 102,000 | 52,400 | 79,600 | 12,800 | 27,900 | 12,200 | 13,800 | 4,700 | | |
| 15 | 7,340 | 22,400 | 9,400 | 14,400 | 113,000 | 110,000 | 68,800 | 13,600 | 24,700 | 11,600 | 11,200 | 6,060 | | |
| 16 | 7,520 | 26,300 | 13,200 | 14,500 | 95,000 | 113,000 | 56,300 | 20,400 | 18,900 | 11,900 | 9,400 | 8,260 | | |
| 17 | 7,610 | 27,900 | 57,000 | 14,000 | 75,200 | 99,400 | 46,300 | 29,600 | 22,400 | 11,700 | 8,510 | 24,000 | | |
| 18 | 6,980 | 27,100 | 175,000 | 13,800 | 60,400 | 99,400 | 39,600 | 33,100 | 38,200 | 10,500 | 7,790 | 22,400 | | |
| 19 | 7,160 | 26,300 | 231,000 | 14,300 | 60,400 | 99,400 | 45,300 | 47,500 | 33,300 | 9,500 | 8,530 | 17,000 | | |
| 20 | 8,640 | 24,700 | 151,000 | 13,800 | 104,000 | 68,200 | 60,400 | 66,700 | 24,000 | 11,400 | 7,970 | 13,700 | | |
| 21 | 18,200 | 23,200 | 102,000 | 14,700 | 121,000 | 53,300 | 54,300 | 75,200 | 24,700 | 11,500 | 6,640 | 12,200 | | |
| 22 | 21,000 | 18,200 | 86,200 | 18,200 | 90,600 | 48,300 | 48,300 | 95,000 | 20,300 | 13,400 | 6,000 | 11,000 | | |
| 23 | 21,000 | 18,200 | 68,800 | 27,900 | 73,000 | 43,400 | 45,300 | 97,200 | 16,300 | 15,700 | 5,280 | 10,600 | | |
| 24 | 28,800 | 17,600 | 55,300 | 34,000 | 60,400 | 38,600 | 48,300 | 73,000 | 15,100 | 26,200 | 4,990 | 12,700 | | |
| 25 | 33,100 | 16,300 | 45,300 | 47,300 | 54,300 | 37,600 | 34,000 | 62,500 | 14,600 | 30,000 | 5,060 | 18,200 | | |
| 26 | 34,000 | 15,700 | 35,800 | 79,600 | 48,300 | 37,600 | 27,900 | 49,300 | 12,200 | 21,700 | 4,710 | 18,200 | | |
| 27 | 30,400 | 17,600 | 34,000 | 70,900 | 40,500 | 34,900 | 25,500 | 39,600 | 25,900 | 17,600 | 4,360 | 14,900 | | |
| 28 | 52,000 | 24,000 | 32,200 | 52,300 | 34,000 | 33,100 | 23,200 | 35,800 | 45,900 | 15,100 | 4,150 | 12,200 | | |
| 29 | 199,000 | 29,600 | 32,200 | 38,600 | | 36,700 | 21,000 | 26,300 | 38,900 | 14,700 | 4,080 | 10,900 | | |
| 30 | 160,000 | 37,600 | 34,900 | 29,600 | | 33,100 | 23,200 | 20,300 | 28,800 | 16,700 | 3,940 | 9,100 | | |
| 31 | 95,000 | | 35,800 | 32,200 | | 43,400 | | 16,300 | | 17,600 | 3,440 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October | | | | | 199,000 | | 3,500 | | 26,600 | | 1.36 | | 1.57 | |
| November | | | | | 68,800 | | 14,600 | | 24,740 | | 1.27 | | 1.42 | |
| December | | | | | 231,000 | | 9,400 | | 46,520 | | 2.39 | | 2.76 | |
| January | | | | | 79,600 | | 13,800 | | 32,680 | | 1.68 | | 1.94 | |
| February | | | | | 121,000 | | 34,000 | | 70,500 | | 3.62 | | 3.77 | |
| March | | | | | 134,000 | | 29,600 | | 59,770 | | 3.07 | | 3.54 | |
| April | | | | | 117,000 | | 21,000 | | 50,850 | | 2.61 | | 2.91 | |
| May | | | | | 97,200 | | 10,500 | | 32,690 | | 1.68 | | 1.94 | |
| June | | | | | 45,900 | | 12,100 | | 21,610 | | 1.11 | | 1.24 | |
| July | | | | | 30,000 | | 8,600 | | 14,660 | | .752 | | .87 | |
| August | | | | | 18,200 | | 3,440 | | 10,450 | | .536 | | .62 | |
| September | | | | | 24,000 | | 3,380 | | 9,192 | | .471 | | .52 | |
| The year | | | | | 231,000 | | 3,380 | | 33,120 | | 1.70 | | 23.10 | |

Brokenstraw Creek at Youngsville, Pa.

Location.— Chain gage, lat. 41°51'05", long. 79°19'05", at highway bridge at Youngsville, Warren County, 1,000 feet above mouth of Mathews Run. Zero of gage is 1,187.92 feet above mean sea level (general adjustment of 1907).

Drainage area.— 304 square miles.

Records available.— October 1919 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; October 1909 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 24 years (1910-15, 1919-38), 544 second-feet.

Extremes.— Maximum discharge during year, 6,740 second-feet Feb. 14 (gage height, 8.2 feet, from graph based on gage readings); minimum, 53 second-feet Sept. 2-7, 10, 11, (gage height, 0.20 foot).

1909-38: Maximum discharge, 14,300 second-feet Mar. 25, 1913 (gage height, 13.2 feet, present datum), from rating curve extended above 7,000 second-feet; minimum, 19 second-feet Oct. 14, 1934.

Remarks.— Records fair. Discharge for periods of ice effect, Dec. 7-16, Jan. 9-24, determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|-------|-------|-------|-------|-------|-------|-----|------|------|------|-------|
| 1 | 67 | 274 | 500 | 2,470 | 1,130 | 410 | 600 | 329 | 161 | 122 | 756 | 56 |
| 2 | 67 | 240 | 329 | 2,800 | 760 | 432 | 500 | 292 | 167 | 161 | 760 | 53 |
| 3 | 67 | 221 | 247 | 1,610 | 820 | 600 | 410 | 250 | 190 | 142 | 478 | 53 |
| 4 | 63 | 212 | 237 | 1,000 | 1,260 | 310 | 432 | 702 | 164 | 112 | 292 | 53 |
| 5 | 65 | 205 | 237 | 625 | 1,200 | 622 | 455 | 600 | 159 | 97 | 247 | 53 |
| 6 | 88 | 193 | 237 | 550 | 1,640 | 3,600 | 432 | 410 | 150 | 88 | 224 | 53 |
| 7 | 82 | 187 | 210 | 478 | 3,090 | 3,260 | 410 | 310 | 132 | 84 | 257 | 53 |
| 8 | 82 | 181 | 190 | 368 | 1,920 | 1,740 | 768 | 237 | 132 | 78 | 215 | 58 |
| 9 | 82 | 368 | 180 | 300 | 2,160 | 678 | 2,280 | 257 | 127 | 92 | 156 | 58 |
| 10 | 86 | 455 | 170 | 230 | 2,520 | 500 | 2,900 | 310 | 117 | 117 | 132 | 53 |
| 11 | 86 | 348 | 160 | 240 | 2,610 | 525 | 2,430 | 329 | 112 | 108 | 257 | 53 |
| 12 | 86 | 257 | 155 | 260 | 1,180 | 432 | 2,250 | 274 | 127 | 114 | 224 | 68 |
| 13 | 86 | 705 | 150 | 240 | 4,260 | 455 | 1,680 | 257 | 196 | 99 | 167 | 97 |
| 14 | 82 | 880 | 140 | 220 | 6,020 | 705 | 1,200 | 244 | 178 | 92 | 148 | 192 |
| 15 | 82 | 705 | 150 | 200 | 3,300 | 650 | 820 | 274 | 142 | 88 | 122 | 1,470 |
| 16 | 82 | 820 | 400 | 190 | 1,400 | 1,010 | 650 | 254 | 127 | 80 | 170 | 1,510 |
| 17 | 82 | 940 | 820 | 170 | 940 | 3,000 | 550 | 231 | 124 | 74 | 173 | 618 |
| 18 | 116 | 940 | 3,050 | 150 | 1,970 | 2,610 | 940 | 224 | 108 | 84 | 150 | 678 |
| 19 | 829 | 678 | 2,700 | 140 | 3,520 | 1,680 | 1,330 | 221 | 99 | 78 | 110 | 368 |
| 20 | 625 | 525 | 2,250 | 130 | 2,610 | 940 | 1,200 | 254 | 90 | 74 | 94 | 625 |
| 21 | 455 | 500 | 1,610 | 130 | 1,840 | 760 | 760 | 274 | 96 | 67 | 78 | 432 |
| 22 | 478 | 389 | 1,000 | 140 | 1,200 | 600 | 678 | 250 | 78 | 68 | 80 | 691 |
| 23 | 910 | 348 | 880 | 160 | 940 | 550 | 705 | 240 | 78 | 532 | 74 | 1,580 |
| 24 | 705 | 274 | 600 | 430 | 820 | 760 | 550 | 310 | 72 | 362 | 70 | 1,880 |
| 25 | 600 | 329 | 760 | 3,570 | 625 | 678 | 455 | 389 | 93 | 187 | 72 | 1,060 |
| 26 | 455 | 432 | 705 | 3,620 | 625 | 625 | 410 | 329 | 339 | 122 | 70 | 432 |
| 27 | 389 | 678 | 455 | 1,530 | 650 | 600 | 368 | 525 | 672 | 105 | 70 | 410 |
| 28 | 575 | 940 | 525 | 705 | 329 | 500 | 310 | 389 | 284 | 192 | 67 | 310 |
| 29 | 550 | 1,000 | 432 | 500 | | 432 | 389 | 292 | 164 | 895 | 63 | 244 |
| 30 | 432 | 940 | 410 | 1,010 | | 432 | 348 | 224 | 132 | 705 | 60 | 193 |
| 31 | 310 | | 410 | 1,440 | | 500 | | 196 | | 392 | 56 | |

| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|---------|---------|-------|-----------------|-------------------|
| October..... | 910 | 63 | 283 | 0.931 | 1.07 |
| November..... | 1,000 | 181 | 505 | 1.66 | 1.85 |
| December..... | 3,050 | 140 | 655 | 2.15 | 2.48 |
| January..... | 3,620 | 130 | 826 | 2.72 | 3.14 |
| February..... | 6,020 | 329 | 1,834 | 6.03 | 6.28 |
| March..... | 3,600 | 310 | 987 | 3.25 | 3.75 |
| April..... | 2,900 | 310 | 907 | 2.98 | 3.32 |
| May..... | 702 | 196 | 312 | 1.03 | 1.19 |
| June..... | 672 | 72 | 160 | .526 | .59 |
| July..... | 895 | 67 | 181 | .595 | .69 |
| August..... | 760 | 56 | 189 | .622 | .72 |
| September..... | 1,880 | 53 | 462 | 1.52 | 1.70 |
| The year..... | 6,020 | 53 | 599 | 1.97 | 26.78 |

Location.— Water-stage recorder, lat. 41°38'05", long. 79°03'00", at highway bridge at Lynch, Forest County, 500 feet above mouth of Bluejay Creek and 7 miles south of Sheffield. Zero of gage is 1,252.43 feet above mean sea level (preliminary levels of 1927).

Drainage area.- 233 square miles.

Records available.- March to September 1938.

Extremes.— Maximum discharge during period, 2,690 second-feet Apr. 13 (gage height, 4.74 feet), from rating curve extended above 700 second-feet; minimum, 28 second-feet Sept. 10, 11 (gage height, 0.85 foot).

Remarks.- Records fair. Some regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------------|------|------|------|------|------|---------|---------|------|-----------------|------|-------------------|-------|
| 1 | | | | | | | 555 | 308 | 124 | 312 | 138 | 42 |
| 2 | | | | | | | 448 | 278 | 140 | 338 | 147 | 39 |
| 3 | | | | | | | 418 | 258 | 169 | 254 | 111 | 37 |
| 4 | | | | | | | 404 | 408 | 122 | 199 | 148 | 34 |
| 5 | | | | | | | 380 | 361 | 116 | 169 | 438 | 31 |
| 6 | | | | | | | 352 | 299 | 119 | 144 | 206 | 30 |
| 7 | | | | | | | 343 | 265 | 104 | 127 | 277 | 29 |
| 8 | | | | | | | 375 | 246 | 106 | 114 | 209 | 31 |
| 9 | | | | | | | 1,060 | 239 | 89 | 174 | 206 | 31 |
| 10 | | | | | | | 1,080 | 246 | 80 | 237 | 169 | 29 |
| 11 | | | | | | | 1,240 | 239 | 127 | 153 | 242 | 29 |
| 12 | | | | | | 561 | 2,170 | 213 | 133 | 150 | 205 | 41 |
| 13 | | | | | | 583 | 2,390 | 199 | 189 | 116 | 160 | 70 |
| 14 | | | | | | 715 | 2,060 | 189 | 130 | 108 | 136 | 105 |
| 15 | | | | | | 672 | 1,550 | 220 | 111 | 127 | 119 | 492 |
| 16 | | | | | | 635 | 1,160 | 209 | 98 | 101 | 136 | 201 |
| 17 | | | | | | 1,020 | 913 | 178 | 91 | 87 | 122 | 106 |
| 18 | | | | | | 934 | 1,100 | 169 | 87 | 98 | 114 | 80 |
| 19 | | | | | | 811 | 1,160 | 166 | 78 | 106 | 96 | 69 |
| 20 | | | | | | 752 | 913 | 195 | 71 | 80 | 82 | 76 |
| 21 | | | | | | 684 | 798 | 220 | 65 | 71 | 73 | 69 |
| 22 | | | | | | 612 | 791 | 185 | 66 | 85 | 71 | 72 |
| 23 | | | | | | 600 | 659 | 166 | 123 | 84 | 65 | 234 |
| 24 | | | | | | 811 | 566 | 303 | 78 | 902 | 61 | 150 |
| 25 | | | | | | 672 | 516 | 317 | 67 | 283 | 56 | 101 |
| 26 | | | | | | 659 | 459 | 242 | 602 | 182 | 54 | 82 |
| 27 | | | | | | 589 | 409 | 220 | 2,100 | 144 | 50 | 78 |
| 28 | | | | | | 511 | 370 | 195 | 907 | 130 | 47 | 76 |
| 29 | | | | | | 464 | 366 | 182 | 516 | 233 | 44 | 65 |
| 30 | | | | | | 438 | 347 | 160 | 370 | 164 | 40 | 60 |
| 31 | | | | | | 479 | | 138 | | 122 | 42 | |
| Month | | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | |
| October..... | | | | | | | | | | | | |
| November..... | | | | | | | | | | | | |
| December..... | | | | | | | | | | | | |
| January..... | | | | | | | | | | | | |
| February..... | | | | | | | | | | | | |
| March.....12-31 | | | | | | 1,020 | 438 | 660 | 2.83 | | | 2.10 |
| April..... | | | | | | 2,390 | 343 | 945 | 3.63 | | | 4.05 |
| May..... | | | | | | 408 | 138 | 233 | 1.00 | | | 1.15 |
| June..... | | | | | | 2,100 | 65 | 239 | 1.03 | | | 1.15 |
| July..... | | | | | | 902 | 71 | 180 | .773 | | | .89 |
| August..... | | | | | | 438 | 40 | 131 | .562 | | | .65 |
| September..... | | | | | | 492 | 29 | 86.3 | .370 | | | .41 |
| The year..... | | | | | | 2,390 | 29 | 321 | 1.38 | | | 10.40 |

Tionesta Creek at Nebraska, Pa.

Location.- Staff gage, lat. 41°28'25", long. 79°23'05", 500 feet below highway bridge at Nebraska, Forest County, a third of a mile below mouth of Coon Creek. Zero of gage is 1,079.00 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.- 481 square miles.

Records available.- October 1931 to September 1938 in reports of U. S. Geological Survey; October 1909 to September 1911 in report of Flood Commission of Pittsburgh, 1911; August 1923 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 13 years (1925-38), 857 second-feet.

Extremes.-- Maximum discharge during year, 10,000 second-foot Mar. 6 (gage height, 7.8 feet, from graph based on gage readings); minimum, 50 second-feet Sept. 10 (gage height, 0.35 foot).

1909-11, 1923-58: Maximum discharge, 21,900 second-feet Mar. 4, 1934 (gauge height, 11.4 feet, from graph based on gage readings), from rating curve extended above 15,500 second-feet; minimum, 25 second-feet Sept. 7-10, 25, 1927.

Remarks.- Records fair. Discharge for periods of ice effect, Dec. 10-17, Jan. 15-24, Feb. 1-3, determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|------|-------|
| 1 | 87 | 1,010 | 770 | 2,470 | 850 | 800 | 1,050 | 621 | 229 | 807 | 280 | 74 |
| 2 | 87 | 870 | 650 | 2,590 | 750 | 800 | 870 | 535 | 229 | 598 | 327 | 70 |
| 3 | 82 | 800 | 650 | 1,920 | 800 | 905 | 800 | 480 | 351 | 453 | 242 | 64 |
| 4 | 82 | 710 | 680 | 1,440 | 1,620 | 621 | 770 | 563 | 250 | 327 | 195 | 62 |
| 5 | 107 | 621 | 650 | 1,260 | 1,050 | 1,270 | 740 | 680 | 217 | 258 | 410 | 57 |
| 6 | 191 | 621 | 592 | 1,010 | 1,260 | 8,030 | 680 | 535 | 225 | 225 | 394 | 55 |
| 7 | 177 | 592 | 507 | 940 | 3,490 | 4,200 | 680 | 480 | 202 | 198 | 480 | 53 |
| 8 | 127 | 563 | 507 | 770 | 2,350 | 2,590 | 732 | 427 | 198 | 180 | 378 | 53 |
| 9 | 115 | 650 | 401 | 453 | 2,680 | 1,920 | 2,160 | 401 | 180 | 206 | 351 | 53 |
| 10 | 127 | 680 | 380 | 563 | 4,660 | 1,530 | 2,470 | 427 | 153 | 482 | 280 | 53 |
| 11 | 134 | 563 | 370 | 621 | 3,090 | 1,350 | 2,190 | 427 | 163 | 280 | 427 | 57 |
| 12 | 127 | 535 | 360 | 563 | 2,130 | 1,090 | 3,770 | 351 | 258 | 242 | 453 | 72 |
| 13 | 127 | 975 | 350 | 507 | 3,940 | 1,050 | 4,160 | 327 | 376 | 206 | 363 | 127 |
| 14 | 121 | 1,260 | 340 | 453 | 5,090 | 1,260 | 3,490 | 303 | 280 | 170 | 238 | 314 |
| 15 | 115 | 1,130 | 340 | 410 | 3,350 | 1,440 | 2,710 | 376 | 210 | 246 | 202 | 302 |
| 16 | 107 | 1,130 | 400 | 380 | 2,350 | 1,260 | 2,020 | 376 | 177 | 191 | 198 | 478 |
| 17 | 104 | 1,090 | 1,100 | 360 | 1,920 | 1,920 | 1,620 | 303 | 166 | 153 | 202 | 217 |
| 18 | 132 | 1,010 | 6,950 | 340 | 1,930 | 1,920 | 2,020 | 280 | 160 | 143 | 180 | 183 |
| 19 | 865 | 940 | 5,600 | 320 | 3,350 | 1,620 | 2,710 | 280 | 146 | 177 | 160 | 130 |
| 20 | 1,010 | 870 | 3,220 | 310 | 4,230 | 1,440 | 2,020 | 303 | 134 | 143 | 137 | 124 |
| 21 | 740 | 770 | 2,240 | 310 | 2,960 | 1,260 | 1,620 | 351 | 124 | 118 | 124 | 127 |
| 22 | 612 | 680 | 1,820 | 330 | 2,490 | 1,760 | 1,530 | 303 | 115 | 121 | 112 | 121 |
| 23 | 1,590 | 621 | 1,620 | 370 | 2,020 | 1,090 | 1,350 | 280 | 140 | 190 | 104 | 233 |
| 24 | 1,620 | 535 | 1,260 | 450 | 1,720 | 1,440 | 1,120 | 453 | 166 | 2,110 | 98 | 551 |
| 25 | 1,170 | 535 | 1,260 | 1,820 | 1,440 | 1,260 | 1,010 | 650 | 121 | 716 | 93 | 198 |
| 26 | 940 | 563 | 1,090 | 1,350 | 1,170 | 1,170 | 870 | 453 | 330 | 401 | 87 | 153 |
| 27 | 1,440 | 621 | 940 | 905 | 1,090 | 1,090 | 800 | 401 | 2,580 | 303 | 82 | 137 |
| 28 | 2,020 | 740 | 870 | 680 | 905 | 940 | 710 | 351 | 1,540 | 258 | 77 | 130 |
| 29 | 2,020 | 1,010 | 770 | 740 | 870 | 870 | 710 | 327 | 800 | 621 | 74 | 121 |
| 30 | 1,620 | 905 | 710 | 835 | 835 | 835 | 680 | 280 | 592 | 453 | 70 | 109 |
| 31 | 1,260 | | 719 | 1,050 | | 870 | | 254 | | 258 | 77 | |

| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|---------|---------|-------|-----------------|-------------------|
| October..... | 2,020 | 82 | 615 | 1.28 | 1.48 |
| November..... | 1,260 | 535 | 787 | 1.64 | 1.83 |
| December..... | 6,950 | 340 | 1,230 | 2.56 | 2.96 |
| January..... | 2,590 | 310 | 865 | 1.78 | 2.05 |
| February..... | 5,090 | 750 | 2,301 | 4.78 | 4.98 |
| March..... | 8,030 | 621 | 1,881 | 3.29 | 3.79 |
| April..... | 4,160 | 680 | 1,602 | 3.33 | 3.72 |
| May..... | 680 | 254 | 406 | .844 | .97 |
| June..... | 2,590 | 115 | 360 | .748 | .85 |
| July..... | 2,110 | 118 | 353 | .734 | .86 |
| August..... | 480 | 70 | 221 | .459 | .53 |
| September..... | 802 | 53 | 158 | .328 | .37 |
| The year..... | 8,030 | 53 | 862 | 1.79 | 24.35 |

Oil Creek at Rouseville, Pa.

Drainage area.- 300 square miles.

Records available.- June 1932 to September 1938.

1932-38: Maximum discharge observed, 11,300 second-feet Jan. 25, 1937
(gage height, 9.85 feet); minimum, 22 second-feet July 29, Sept. 5, 7, 1934
(gage height, 1.76 feet).

Remarks.- Records good except those for periods of ice effect, Dec. 8-17, Jan. 10-24, which are fair and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Records include discharge of Cherrytree Run. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|------|-------|-------|-------|---------|---------|-------|-----------------|------|-------------------|------|-------|
| 1 | 82 | 222 | 403 | 2,290 | 708 | 427 | 770 | 379 | 129 | 129 | 334 | 85 |
| 2 | 82 | 218 | 292 | 1,920 | 505 | 505 | 588 | 326 | 138 | 205 | 334 | 82 |
| 3 | 79 | 199 | 276 | 900 | 560 | 618 | 532 | 305 | 166 | 150 | 205 | 80 |
| 4 | 79 | 186 | 253 | 708 | 1,290 | 330 | 478 | 427 | 140 | 118 | 170 | 79 |
| 5 | 90 | 178 | 265 | 560 | 708 | 746 | 478 | 532 | 129 | 103 | 485 | 77 |
| 6 | 118 | 175 | 272 | 379 | 945 | 4,600 | 452 | 379 | 125 | 94 | 306 | 74 |
| 7 | 105 | 180 | 242 | 452 | 2,040 | 2,130 | 452 | 317 | 118 | 92 | 674 | 74 |
| 8 | 91 | 175 | 220 | 330 | 1,100 | 1,040 | 752 | 264 | 122 | 85 | 403 | 75 |
| 9 | 86 | 269 | 200 | 228 | 1,810 | 770 | 3,070 | 261 | 108 | 94 | 272 | 75 |
| 10 | 91 | 300 | 180 | 260 | 4,780 | 647 | 2,290 | 280 | 105 | 129 | 225 | 74 |
| 11 | 98 | 232 | 170 | 280 | 1,690 | 532 | 1,920 | 317 | 105 | 107 | 330 | 82 |
| 12 | 94 | 205 | 160 | 290 | 1,040 | 478 | 2,550 | 265 | 112 | 103 | 356 | 101 |
| 13 | 94 | 498 | 150 | 270 | 3,010 | 560 | 1,480 | 232 | 138 | 94 | 222 | 284 |
| 14 | 96 | 647 | 140 | 250 | 4,690 | 739 | 1,120 | 228 | 110 | 91 | 180 | 192 |
| 15 | 98 | 505 | 150 | 220 | 1,800 | 647 | 835 | 269 | 98 | 98 | 158 | 1,540 |
| 16 | 96 | 647 | 200 | 200 | 1,040 | 893 | 708 | 246 | 94 | 88 | 158 | 640 |
| 17 | 92 | 770 | 1,000 | 170 | 770 | 3,150 | 618 | 212 | 98 | 79 | 225 | 309 |
| 18 | 127 | 647 | 4,310 | 150 | 1,250 | 2,060 | 900 | 196 | 92 | 85 | 164 | 228 |
| 19 | 952 | 478 | 3,690 | 140 | 4,170 | 1,040 | 1,580 | 212 | 90 | 84 | 138 | 288 |
| 20 | 589 | 427 | 1,690 | 130 | 2,960 | 835 | 970 | 257 | 86 | 77 | 129 | 478 |
| 21 | 403 | 379 | 970 | 130 | 1,380 | 708 | 739 | 232 | 80 | 91 | 116 | 321 |
| 22 | 296 | 334 | 770 | 140 | 1,120 | 618 | 770 | 208 | 82 | 155 | 112 | 559 |
| 23 | 684 | 317 | 835 | 180 | 1,200 | 560 | 678 | 189 | 80 | 1,180 | 105 | 1,380 |
| 24 | 647 | 242 | 560 | 280 | 900 | 835 | 560 | 261 | 79 | 427 | 101 | 681 |
| 25 | 427 | 239 | 802 | 2,720 | 739 | 678 | 505 | 334 | 79 | 212 | 99 | 403 |
| 26 | 334 | 338 | 770 | 1,450 | 588 | 678 | 452 | 239 | 305 | 153 | 101 | 292 |
| 27 | 334 | 770 | 588 | 739 | 588 | 678 | 427 | 192 | 802 | 143 | 94 | 250 |
| 28 | 478 | 647 | 505 | 532 | 427 | 532 | 379 | 178 | 326 | 136 | 88 | 228 |
| 29 | 379 | 1,120 | 452 | 427 | 505 | 505 | 427 | 161 | 178 | 199 | 88 | 199 |
| 30 | 317 | 618 | 427 | 478 | 505 | 505 | 427 | 146 | 133 | 169 | 85 | 175 |
| 31 | 261 | | 431 | 716 | | 588 | | 129 | | 129 | 90 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October..... | | | | | 952 | 79 | 252 | 0.840 | | 0.97 | | |
| November..... | | | | | 1,120 | 175 | 405 | 1.35 | | 1.51 | | |
| December..... | | | | | 4,310 | 140 | 689 | 2.30 | | 2.65 | | |
| January..... | | | | | 2,720 | 130 | 578 | 1.93 | | 2.22 | | |
| February..... | | | | | 4,780 | 427 | 1,565 | 5.22 | | 5.44 | | |
| March..... | | | | | 4,600 | 330 | 956 | 3.19 | | 3.67 | | |
| April..... | | | | | 3,070 | 379 | 930 | 3.10 | | 3.46 | | |
| May..... | | | | | 532 | 129 | 264 | .880 | | 1.01 | | |
| June..... | | | | | 802 | 79 | 148 | .493 | | .56 | | |
| July..... | | | | | 1,180 | 77 | 164 | .547 | | .63 | | |
| August..... | | | | | 674 | 85 | 211 | .703 | | .81 | | |
| September..... | | | | | 1,540 | 74 | 314 | 1.05 | | 1.17 | | |
| The year..... | | | | | 4,780 | 74 | 532 | 1.77 | | 24.09 | | |

French Creek at Carters Corners, Pa.

Drainage area.- 208 square miles.

Average discharge.— 22 years (1910-16, 1919-29, 1932-38), 413 second-feet.

1910-38: Maximum discharge, 11,700 second-feet Mar. 25, 1913, from rating curve extended above 7,000 second-feet; maximum gage height, about 15.2 feet Mar. 12, 1920 (affected by ice); minimum discharge not determined.

Remarks.— Records fair. Discharge for periods of ice effect, Dec. 8-17, Jan. 10-24, determined from gage heights, weather records, and by comparison with records for stations downstream. Gage read twice daily. Some regulation at low stages.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|-------|-------|-------|-------|-------|-------|-----|------|------|------|-------|
| 1 | 30 | 212 | 358 | 2,360 | 990 | 350 | 430 | 163 | 82 | 57 | 166 | 19 |
| 2 | 25 | 196 | 298 | 1,800 | 715 | 390 | 350 | 170 | 76 | 76 | 204 | 18 |
| 3 | 21 | 183 | 226 | 990 | 715 | 410 | 350 | 139 | 92 | 75 | 139 | 22 |
| 4 | 19 | 176 | 212 | 590 | 1,050 | 350 | 315 | 226 | 104 | 49 | 102 | 18 |
| 5 | 23 | 161 | 196 | 390 | 880 | 1,600 | 350 | 298 | 102 | 37 | 681 | 20 |
| 6 | 30 | 146 | 212 | 332 | 1,780 | 4,920 | 370 | 298 | 90 | 31 | 452 | 21 |
| 7 | 34 | 151 | 186 | 315 | 2,100 | 1,810 | 332 | 280 | 75 | 34 | 542 | 23 |
| 8 | 37 | 154 | 170 | 280 | 1,170 | 770 | 972 | 188 | 69 | 25 | 370 | 71 |
| 9 | 37 | 332 | 160 | 243 | 2,820 | 475 | 2,340 | 158 | 86 | 45 | 212 | 92 |
| 10 | 38 | 315 | 150 | 230 | 4,460 | 410 | 1,570 | 204 | 75 | 28 | 130 | 66 |
| 11 | 42 | 249 | 140 | 230 | 1,500 | 390 | 1,710 | 298 | 71 | 37 | 209 | 49 |
| 12 | 38 | 212 | 130 | 220 | 788 | 332 | 880 | 264 | 183 | 71 | 264 | 60 |
| 13 | 42 | 298 | 125 | 210 | 5,260 | 565 | 640 | 198 | 332 | 52 | 163 | 292 |
| 14 | 45 | 452 | 125 | 200 | 4,430 | 880 | 590 | 173 | 315 | 38 | 115 | 752 |
| 15 | 48 | 370 | 130 | 190 | 1,540 | 590 | 410 | 173 | 196 | 110 | 75 | 4,360 |
| 16 | 40 | 590 | 230 | 190 | 775 | 721 | 332 | 149 | 132 | 149 | 115 | 2,080 |
| 17 | 42 | 1,050 | 1,100 | 180 | 498 | 2,400 | 280 | 156 | 106 | 104 | 80 | 645 |
| 18 | 186 | 770 | 2,970 | 170 | 1,300 | 1,360 | 590 | 132 | 106 | 62 | 94 | 332 |
| 19 | 531 | 498 | 1,640 | 160 | 3,480 | 498 | 1,640 | 108 | 84 | 96 | 87 | 350 |
| 20 | 523 | 390 | 1,030 | 150 | 1,860 | 475 | 1,080 | 104 | 66 | 33 | 64 | 498 |
| 21 | 331 | 350 | 770 | 150 | 990 | 410 | 542 | 240 | 52 | 28 | 57 | 315 |
| 22 | 223 | 332 | 665 | 160 | 825 | 332 | 498 | 243 | 40 | 34 | 46 | 1,730 |
| 23 | 534 | 298 | 590 | 180 | 770 | 315 | 410 | 190 | 36 | 54 | 34 | 4,370 |
| 24 | 640 | 264 | 542 | 260 | 640 | 615 | 350 | 467 | 37 | 73 | 28 | 2,680 |
| 25 | 520 | 264 | 542 | 2,000 | 475 | 370 | 280 | 475 | 80 | 62 | 30 | 1,050 |
| 26 | 430 | 530 | 520 | 1,180 | 370 | 475 | 246 | 280 | 102 | 46 | 34 | 430 |
| 27 | 332 | 940 | 430 | 770 | 370 | 452 | 209 | 206 | 113 | 36 | 32 | 315 |
| 28 | 370 | 990 | 370 | 615 | 264 | 550 | 128 | 151 | 78 | 43 | 31 | 243 |
| 29 | 370 | 910 | 332 | 542 | | 298 | 82 | 137 | 57 | 78 | 26 | 181 |
| 30 | 315 | 615 | 315 | 390 | | 315 | 121 | 123 | 80 | 57 | 25 | 96 |
| 31 | 243 | | 342 | 1,370 | | 370 | | 98 | | 51 | 26 | |

| Month | | | | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|----------------|--|--|--|---------|---------|-------|-----------------|-------------------|
| October..... | | | | 640 | 19 | 198 | 0.952 | 1.10 |
| November..... | | | | 1,050 | 146 | 413 | 1.99 | 2.22 |
| December..... | | | | 2,970 | 125 | 490 | 2.36 | 2.72 |
| January..... | | | | 2,360 | 150 | 550 | 2.64 | 3.04 |
| February..... | | | | 5,260 | 264 | 1,529 | 7.35 | 7.65 |
| March..... | | | | 4,920 | 298 | 774 | 3.72 | 4.29 |
| April..... | | | | 2,340 | 82 | 613 | 2.95 | 3.29 |
| May..... | | | | 475 | 98 | 209 | 1.00 | 1.15 |
| June..... | | | | 332 | 36 | 104 | .500 | .56 |
| July..... | | | | 149 | 25 | 57.1 | .275 | .32 |
| August..... | | | | 681 | 25 | 149 | .716 | .83 |
| September..... | | | | 4,370 | 18 | 706 | 3.39 | 3.78 |
| The year..... | | | | 5,260 | 18 | 474 | 2.28 | 30.95 |

French Creek at Saegerstown, Pa.

Location.- Chain gage, lat. 41°42'50", long. 80°08'50", at highway bridge at Saegertown, Crawford County, half a mile above mouth of Woodcock Creek. Zero of gage is 1,093.74 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.- 629 square miles.

Records available.- April to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; April 1921 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 17 years, 1,054 second-feet.

Extremes.- Maximum discharge during year, 12,000 second-feet Feb. 14 (gage height, 12.2 feet, from graph based on gage readings); minimum, 80 second-feet Oct. 1, July 23.

1921-38: Maximum discharge, 20,800 second-feet Jan. 20, 1929 (gage height, 15.9 feet, from graph based on gage readings), from rating curve extended above 14,000 second-feet; minimum, 22 second-feet Oct. 18, 1934 (gage height, 2.10 feet).

Maximum stage known, about 17.9 feet, from floodmark, Mar. 26, 1913 (discharge, 26,300 second-feet, from rating curve extended above 14,000 second-feet).

Remarks.- Records fair. Discharge for periods of ice effect, Dec. 9-17, Jan. 18-24, determined from gage heights, weather records, and by comparison with records for the stations at Carters Corners and Utica. Gage read twice daily. Regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|-----------|-------|-------|-------|-------|---------|-------|---------|-------|-------|------|-----------------|-------|-------------------|--|
| 1 | 80 | 589 | 1,380 | 4,240 | 2,970 | 958 | 1,460 | 555 | 275 | 160 | 203 | 112 | | |
| 2 | 84 | 490 | 958 | 5,750 | 2,450 | 1,300 | 1,220 | 522 | 264 | 189 | 490 | 108 | | |
| 3 | 84 | 459 | 695 | 4,250 | 1,880 | 1,540 | 995 | 459 | 270 | 223 | 428 | 104 | | |
| 4 | 84 | 428 | 589 | 2,080 | 2,650 | 1,220 | 958 | 589 | 297 | 194 | 313 | 100 | | |
| 5 | 92 | 398 | 589 | 1,450 | 2,750 | 2,490 | 995 | 920 | 275 | 156 | 1,090 | 104 | | |
| 6 | 108 | 398 | 589 | 990 | 2,860 | 6,500 | 995 | 732 | 259 | 125 | 1,140 | 104 | | |
| 7 | 120 | 369 | 522 | 1,060 | 4,650 | 8,120 | 995 | 695 | 249 | 120 | 3,170 | 84 | | |
| 8 | 116 | 369 | 428 | 847 | 4,010 | 4,520 | 2,350 | 589 | 239 | 112 | 1,790 | 100 | | |
| 9 | 116 | 522 | 380 | 583 | 4,780 | 2,050 | 5,610 | 490 | 234 | 108 | 1,140 | 82 | | |
| 10 | 120 | 882 | 340 | 583 | 8,290 | 1,460 | 5,750 | 459 | 228 | 104 | 589 | 142 | | |
| 11 | 120 | 659 | 320 | 583 | 8,460 | 1,300 | 4,140 | 589 | 198 | 112 | 770 | 151 | | |
| 12 | 125 | 522 | 310 | 583 | 4,080 | 1,140 | 2,790 | 659 | 218 | 120 | 908 | 142 | | |
| 13 | 125 | 623 | 300 | 552 | 5,690 | 1,220 | 2,130 | 555 | 369 | 134 | 589 | 884 | | |
| 14 | 125 | 1,220 | 300 | 552 | 10,600 | 1,700 | 1,790 | 490 | 555 | 142 | 398 | 978 | | |
| 15 | 134 | 1,070 | 330 | 522 | 9,700 | 1,700 | 1,460 | 459 | 490 | 125 | 308 | 4,780 | | |
| 16 | 138 | 1,540 | 500 | 552 | 4,210 | 1,760 | 1,220 | 459 | 428 | 142 | 623 | 4,910 | | |
| 17 | 142 | 2,310 | 2,000 | 522 | 2,050 | 4,640 | 1,070 | 428 | 297 | 213 | 490 | 3,240 | | |
| 18 | 389 | 2,220 | 4,830 | 490 | 2,910 | 5,330 | 1,790 | 369 | 254 | 194 | 341 | 1,290 | | |
| 19 | 1,880 | 1,620 | 5,900 | 460 | 6,350 | 3,240 | 3,320 | 369 | 223 | 138 | 297 | 1,060 | | |
| 20 | 2,040 | 1,300 | 4,910 | 450 | 7,130 | 1,960 | 3,430 | 428 | 198 | 120 | 259 | 1,290 | | |
| 21 | 1,460 | 1,070 | 3,300 | 450 | 5,050 | 1,540 | 2,220 | 522 | 184 | 104 | 218 | 1,060 | | |
| 22 | 995 | 995 | 2,250 | 470 | 2,790 | 1,300 | 1,620 | 555 | 156 | 96 | 198 | 1,350 | | |
| 23 | 1,460 | 995 | 2,150 | 520 | 2,590 | 1,140 | 1,460 | 490 | 142 | 88 | 179 | 4,130 | | |
| 24 | 1,960 | 882 | 1,790 | 700 | 2,310 | 1,700 | 1,140 | 732 | 134 | 100 | 151 | 5,050 | | |
| 25 | 1,790 | 770 | 2,060 | 3,670 | 1,790 | 1,790 | 958 | 1,220 | 125 | 120 | 142 | 3,300 | | |
| 26 | 1,220 | 1,140 | 2,060 | 3,770 | 1,540 | 1,540 | 845 | 920 | 218 | 134 | 156 | 1,450 | | |
| 27 | 995 | 2,490 | 1,530 | 2,650 | 1,460 | 1,620 | 732 | 659 | 297 | 120 | 151 | 990 | | |
| 28 | 1,070 | 2,790 | 1,290 | 1,880 | 1,070 | 1,300 | 623 | 490 | 341 | 125 | 134 | 812 | | |
| 29 | 995 | 2,790 | 1,140 | 1,370 | | 1,070 | 589 | 428 | 228 | 165 | 142 | 646 | | |
| 30 | 845 | 2,220 | 1,060 | 1,220 | | 1,070 | 589 | 369 | 179 | 213 | 129 | 522 | | |
| 31 | 732 | | 1,060 | 2,650 | | 1,140 | | 313 | | 194 | 116 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October | | | | | 2,040 | | 80 | | 637 | | 1.01 | | 1.16 | |
| November | | | | | 2,790 | | 369 | | 1,138 | | 1.81 | | 2.02 | |
| December | | | | | 5,900 | | 300 | | 1,479 | | 2.35 | | 2.71 | |
| January | | | | | 5,750 | | 450 | | 1,497 | | 2.38 | | 2.74 | |
| February | | | | | 10,600 | | 1,070 | | 4,181 | | 6.65 | | 6.92 | |
| March | | | | | 8,120 | | 958 | | 2,237 | | 3.56 | | 4.10 | |
| April | | | | | 5,750 | | 589 | | 1,841 | | 2.93 | | 3.27 | |
| May | | | | | 1,220 | | 313 | | 565 | | .898 | | 1.04 | |
| June | | | | | 555 | | 125 | | 261 | | .415 | | .46 | |
| July | | | | | 223 | | 88 | | 142 | | .226 | | .26 | |
| August | | | | | 3,170 | | 116 | | 547 | | .870 | | 1.00 | |
| September | | | | | 5,050 | | 92 | | 1,283 | | 2.04 | | 2.28 | |
| The year | | | | | 10,600 | | 80 | | 1,296 | | 2.06 | | 27.96 | |

French Creek at Utica, Pa.

Location.- Water-stage recorder, lat. 41°28'15", long. 79°57'20", at highway bridge at Utica, Venango County, a third of a mile above Mill Creek. Zero of gage is 1,019.54 feet above mean sea level (general adjustment of 1907).

Drainage area.- 1,028 square miles.

Records available.- August 1932 to September 1938.

Extremes.- Maximum discharge during year, 13,000 second-feet Feb. 15 (gage height, 9.89 feet); minimum, 100 second-feet Sept. 9, 10 (gage height, 1.33 feet). 1932-38: Maximum discharge, 19,200 second-feet Mar. 27, 1936 (gage height 11.57 feet), from rating curve extended above 14,000 second-feet; minimum, 43 second-feet, July 30, 1934 (gage height, 1.03 feet).

Maximum stage known, about 15.7 feet during flood of March 1913 (discharge 35,600 second-feet, from rating curve extended above 14,000 second-feet).

Remarks.- Records good except those for periods of recorder failure, Nov. 28 to Dec. Dec. 23-31 (determined on basis of range in stage shown by recorder graph and by comparison with records for stations upstream), and those for period of ice effect, Dec. 10-18 (determined on basis of gage heights, weather records, and by comparison with records for stations upstream), which are fair. Record for Jan. 1-9 based on twice-daily gage readings.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|----------------|-------|-------|-------|-------|---------|-------|---------|-------|-------|------|-----------------|-------|-------------------|--|
| 1 | 142 | 1,000 | 2,300 | 4,790 | 3,820 | 1,670 | 1,920 | 861 | 420 | 312 | 394 | 137 | | |
| 2 | 139 | 868 | 1,620 | 6,100 | 3,520 | 1,920 | 1,870 | 796 | 391 | 366 | 408 | 125 | | |
| 3 | 137 | 762 | 1,260 | 6,300 | 2,780 | 2,350 | 1,580 | 727 | 415 | 360 | 572 | 120 | | |
| 4 | 154 | 701 | 1,080 | 3,970 | 3,240 | 2,080 | 1,440 | 825 | 391 | 338 | 464 | 113 | | |
| 5 | 150 | 656 | 966 | 2,590 | 3,600 | 2,750 | 1,400 | 1,130 | 401 | 284 | 566 | 111 | | |
| 6 | 169 | 619 | 928 | 2,020 | 3,670 | 7,350 | 1,400 | 1,100 | 373 | 236 | 1,070 | 107 | | |
| 7 | 175 | 601 | 854 | 1,670 | 5,140 | 8,900 | 1,400 | 913 | 355 | 206 | 2,460 | 107 | | |
| 8 | 172 | 590 | 688 | 1,440 | 5,320 | 8,290 | 2,130 | 846 | 333 | 181 | 2,570 | 111 | | |
| 9 | 163 | 632 | 564 | 1,030 | 5,500 | 4,580 | 6,710 | 720 | 312 | 208 | 1,900 | 104 | | |
| 10 | 169 | 913 | 540 | 974 | 9,350 | 2,870 | 8,100 | 662 | 304 | 196 | 1,320 | 104 | | |
| 11 | 178 | 974 | 500 | 966 | 10,400 | 2,240 | 7,600 | 668 | 292 | 184 | 1,120 | 145 | | |
| 12 | 181 | 796 | 480 | 982 | 9,100 | 1,870 | 5,340 | 789 | 300 | 193 | 1,230 | 192 | | |
| 13 | 184 | 883 | 460 | 928 | 7,120 | 1,770 | 3,900 | 762 | 325 | 175 | 974 | 265 | | |
| 14 | 184 | 1,290 | 450 | 885 | 10,100 | 2,180 | 3,040 | 668 | 491 | 222 | 734 | 394 | | |
| 15 | 181 | 1,580 | 500 | 861 | 12,700 | 2,470 | 2,470 | 675 | 613 | 274 | 522 | 3,250 | | |
| 16 | 187 | 1,780 | 700 | 825 | 10,300 | 2,770 | 2,020 | 675 | 544 | 184 | 482 | 4,790 | | |
| 17 | 190 | 2,530 | 1,800 | 825 | 5,140 | 5,880 | 1,770 | 632 | 434 | 192 | 682 | 4,960 | | |
| 18 | 290 | 2,970 | 7,200 | 720 | 4,200 | 6,700 | 2,090 | 584 | 350 | 265 | 561 | 2,760 | | |
| 19 | 2,100 | 2,470 | 8,100 | 694 | 7,850 | 5,750 | 3,640 | 590 | 308 | 222 | 434 | 1,820 | | |
| 20 | 2,840 | 1,920 | 7,600 | 708 | 9,100 | 3,680 | 4,290 | 682 | 281 | 184 | 360 | 1,580 | | |
| 21 | 2,350 | 1,620 | 6,060 | 708 | 8,600 | 2,590 | 3,500 | 682 | 258 | 158 | 308 | 1,620 | | |
| 22 | 1,770 | 1,440 | 4,290 | 688 | 5,820 | 2,130 | 2,470 | 720 | 236 | 139 | 269 | 1,620 | | |
| 23 | 1,920 | 1,400 | 4,000 | 727 | 4,620 | 1,870 | 2,080 | 714 | 212 | 147 | 236 | 3,100 | | |
| 24 | 2,410 | 1,260 | 3,100 | 953 | 4,050 | 2,180 | 1,770 | 841 | 196 | 134 | 216 | 4,790 | | |
| 25 | 2,300 | 1,240 | 3,300 | 3,860 | 3,310 | 2,590 | 1,480 | 1,550 | 212 | 134 | 190 | 4,960 | | |
| 26 | 1,820 | 1,400 | 3,500 | 4,960 | 2,590 | 2,470 | 1,260 | 1,400 | 348 | 139 | 178 | 2,880 | | |
| 27 | 1,580 | 2,600 | 3,000 | 4,450 | 2,840 | 2,350 | 1,130 | 1,020 | 741 | 178 | 178 | 1,670 | | |
| 28 | 1,480 | 3,500 | 2,400 | 3,170 | 1,860 | 2,080 | 1,010 | 768 | 595 | 196 | 172 | 1,160 | | |
| 29 | 1,530 | 3,900 | 2,000 | 2,500 | | 1,720 | 966 | 625 | 464 | 212 | 158 | 928 | | |
| 30 | 1,400 | 3,200 | 1,900 | 1,920 | | 1,620 | 890 | 539 | 338 | 206 | 152 | 727 | | |
| 31 | 1,210 | | 1,900 | 3,040 | | 1,720 | | 464 | | 243 | 144 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | | 2,840 | | 134 | | 898 | | 0.874 | | 1.01 | |
| November..... | | | | | 3,900 | | 590 | | 1,536 | | 1.49 | | 1.66 | |
| December..... | | | | | 8,100 | | 450 | | 2,389 | | 2.32 | | 2.68 | |
| January..... | | | | | 6,300 | | 688 | | 2,131 | | 2.07 | | 2.39 | |
| February..... | | | | | 12,700 | | 1,860 | | 5,894 | | 5.73 | | 5.97 | |
| March..... | | | | | 8,600 | | 1,620 | | 3,260 | | 3.17 | | 3.66 | |
| April..... | | | | | 6,100 | | 890 | | 2,689 | | 2.62 | | 2.92 | |
| May..... | | | | | 1,400 | | 464 | | 768 | | .767 | | .88 | |
| June..... | | | | | 741 | | 196 | | 374 | | .364 | | .41 | |
| July..... | | | | | 386 | | 134 | | 216 | | .210 | | .24 | |
| August..... | | | | | 2,570 | | 144 | | 678 | | .660 | | .76 | |
| September..... | | | | | 4,960 | | 104 | | 1,492 | | 1.45 | | 1.62 | |
| The year..... | | | | | 12,700 | | 104 | | 1,833 | | 1.78 | | 24.20 | |

Cussewago Creek near Meadville, Pa.

Location.— Chain gage, lat. $41^{\circ}40'20''$, long. $80^{\circ}12'55''$, at highway bridge 4 miles northwest of Meadville, Crawford County. Zero of gage is 1,071.77 feet above mean sea level.

Drainage area.- 90.2 square miles.

Records available.- October 1918 to September 1920, October 1931 to September 1938 in reports of U. S. Geological Survey; May 1910 to September 1938 in reports of Pennsylvania Department of Forests and Waters (discontinued).

Average discharge.- 28 years, 129 second-feet.

Extremes.—Maximum discharge during year, 2,180 second-foot Feb. 10 (gage height, 11.3 feet, from graph based on gage readings), from rating curve extended above 1,000 second-foot; minimum, 0.5 second-foot Sept. 9, 10 (gage height, 0.60 foot).

1910-38: Maximum gage height (estimated), 16.0 feet Mar. 25, 1913 (discharge not determined; probably backwater from French Creek); no fl. July 23, Sept. 7, 1936.

Remarks.- Records fair. Discharge for periods of ice effect, Dec. 3-17, Jan. 6 to Feb. 6, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|------|------|-------|------|---------|---------|------|-----------------|------|-------------------|------|-------|
| 1 | 1.8 | 54 | 127 | 409 | 300 | 97 | 151 | 32 | 12 | 7.0 | 7.9 | 1.5 |
| 2 | 1.5 | 42 | 81 | 947 | 230 | 122 | 127 | 28 | 11 | 12 | 19 | 1.3 |
| 3 | 1.5 | 38 | 60 | 672 | 170 | 210 | 87 | 24 | 14 | 13 | 23 | 1.3 |
| 4 | 1.3 | 34 | 48 | 466 | 220 | 210 | 78 | 29 | 16 | 11 | 13 | 1.0 |
| 5 | 2.6 | 32 | 37 | 169 | 320 | 206 | 78 | 89 | 17 | 9.1 | 8.9 | .8 |
| 6 | 6.1 | 32 | 34 | 80 | 350 | 794 | 78 | 66 | 15 | 6.8 | 6.1 | .8 |
| 7 | 5.7 | 29 | 32 | 65 | 424 | 885 | 74 | 48 | 13 | 5.7 | 46 | .9 |
| 8 | 4.3 | 28 | 30 | 54 | 411 | 600 | 179 | 33 | 11 | 4.6 | 260 | .8 |
| 9 | 4.1 | 36 | 28 | 45 | 464 | 298 | 733 | 25 | 13 | 4.6 | 411 | .5 |
| 10 | 4.3 | 54 | 27 | 40 | 1,600 | 127 | 935 | 24 | 13 | 3.7 | 452 | .5 |
| 11 | 4.8 | 54 | 26 | 37 | 885 | 102 | 672 | 25 | 10 | 3.7 | 349 | .8 |
| 12 | 5.7 | 48 | 25 | 35 | 600 | 82 | 480 | 25 | 13 | 3.3 | 169 | 1.3 |
| 13 | 6.3 | 50 | 24 | 33 | 495 | 87 | 217 | 22 | 25 | 2.8 | 139 | 5.4 |
| 14 | 6.6 | 92 | 23 | 32 | 1,560 | 127 | 139 | 20 | 38 | 2.4 | 74 | 42 |
| 15 | 6.3 | 112 | 23 | 31 | 840 | 139 | 122 | 25 | 24 | 2.4 | 32 | 310 |
| 16 | 6.6 | 163 | 50 | 30 | 580 | 178 | 92 | 32 | 16 | 2.0 | 22 | 1,190 |
| 17 | 7.0 | 296 | 170 | 29 | 278 | 411 | 78 | 29 | 13 | 1.8 | 58 | 730 |
| 18 | 35 | 338 | 538 | 28 | 263 | 480 | 158 | 24 | 13 | 1.5 | 45 | 470 |
| 19 | 258 | 286 | 1,260 | 27 | 660 | 466 | 328 | 29 | 13 | 1.4 | 25 | 190 |
| 20 | 367 | 157 | 1,060 | 27 | 840 | 217 | 411 | 51 | 9.8 | 1.3 | 18 | 225 |
| 21 | 316 | 107 | 763 | 27 | 646 | 127 | 284 | 48 | 8.4 | 1.2 | 13 | 225 |
| 22 | 152 | 97 | 622 | 29 | 495 | 97 | 139 | 36 | 7.5 | 1.3 | 9.6 | 200 |
| 23 | 175 | 97 | 510 | 34 | 361 | 78 | 107 | 30 | 6.3 | 1.5 | 8.2 | 364 |
| 24 | 258 | 162 | 385 | 50 | 349 | 154 | 78 | 68 | 5.7 | 1.4 | 6.6 | 680 |
| 25 | 235 | 112 | 316 | 350 | 249 | 286 | 62 | 154 | 5.9 | 1.3 | 5.4 | 672 |
| 26 | 157 | 133 | 361 | 700 | 151 | 233 | 50 | 122 | 9.8 | 1.2 | 4.1 | 454 |
| 27 | 107 | 288 | 385 | 500 | 127 | 210 | 46 | 54 | 20 | 1.3 | 3.5 | 138 |
| 28 | 107 | 398 | 249 | 350 | 107 | 157 | 39 | 33 | 20 | 1.5 | 2.4 | 58 |
| 29 | 112 | 398 | 175 | 170 | 102 | 97 | 34 | 23 | 14 | 1.4 | 1.8 | 40 |
| 30 | 107 | 267 | 163 | 100 | 97 | 97 | 32 | 18 | 8.2 | 1.7 | 1.8 | 32 |
| 31 | 78 | | 163 | 200 | | 117 | | 14 | | 5.4 | 1.5 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October | | | | | 367 | 1.3 | 81.9 | 0.908 | | 1.06 | | |
| November | | | | | 398 | 28 | 132 | 1.46 | | 1.63 | | |
| December | | | | | 1,260 | 23 | 251 | 2.78 | | 3.20 | | |
| January | | | | | 847 | 27 | 183 | 2.03 | | 2.54 | | |
| February | | | | | 1,600 | 107 | 499 | 5.53 | | 5.76 | | |
| March | | | | | 885 | 78 | 242 | 2.68 | | 3.09 | | |
| April | | | | | 935 | 32 | 203 | 2.25 | | 2.51 | | |
| May | | | | | 154 | 14 | 41.3 | .458 | | .53 | | |
| June | | | | | 38 | 5.7 | 13.8 | .153 | | .17 | | |
| July | | | | | 13 | 1.2 | 3.85 | .043 | | .06 | | |
| August | | | | | 462 | 1.5 | 72.1 | .799 | | .92 | | |
| September | | | | | 1,190 | .5 | 201 | 2.23 | | 2.49 | | |
| The year | | | | | 1,600 | .5 | 158 | 1.75 | | 23.74 | | |

Sugar Creek at Sugarcreek, Pa.

Location.- Chain gage, lat. $41^{\circ}25'45''$, long. $79^{\circ}52'45''$, at highway bridge three-quarters of a mile north of Sugarcreek, Venango County, three-quarters of a mile above mouth, and 3 miles northwest of Franklin. Zero of gage is 1,016.03 feet above mean sea level (general adjustment of 1912).

Drainage area.- 166 square miles.

Records available.- August 1932 to September 1938.

Extremes.— Maximum discharge during year, 4,900 second-feet Dec. 18 (gage height, 6.7 feet, from graph based on gage readings); minimum, 41 second-feet June 23-25 (gage height, 1.24 feet).

1932-38: Maximum discharge, 8,690 second-feet Jan. 25, 1937 (gage height, 8.5 feet, from graph based on gage readings); minimum, 9.2 second-feet Oct. 22, 1935; minimum daily discharge, 10 second-feet Oct. 14, 1934.

Remarks.- Records fair. Discharge for period of ice effect, Dec. 14-16, determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Some regulation at low stages from operations of mills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|------|-------|-------|-------|-------|-------|-----|------|------|------|-------|
| 1 | 46 | 98 | 246 | 1,160 | 326 | 343 | 402 | 180 | 64 | 81 | 385 | 49 |
| 2 | 45 | 97 | 232 | 672 | 343 | 343 | 308 | 157 | 72 | 130 | 177 | 46 |
| 3 | 68 | 106 | 164 | 466 | 326 | 343 | 276 | 146 | 91 | 86 | 130 | 46 |
| 4 | 46 | 95 | 146 | 381 | 444 | 315 | 261 | 246 | 62 | 71 | 110 | 46 |
| 5 | 52 | 86 | 148 | 308 | 308 | 1,390 | 232 | 205 | 63 | 66 | 98 | 46 |
| 6 | 60 | 89 | 148 | 292 | 343 | 2,450 | 218 | 192 | 62 | 60 | 108 | 44 |
| 7 | 52 | 85 | 136 | 261 | 422 | 1,180 | 232 | 155 | 60 | 58 | 452 | 44 |
| 8 | 45 | 84 | 134 | 218 | 444 | 672 | 556 | 140 | 60 | 56 | 142 | 43 |
| 9 | 45 | 108 | 122 | 144 | 1,490 | 490 | 3,230 | 124 | 55 | 58 | 126 | 45 |
| 10 | 52 | 100 | 122 | 161 | 2,220 | 402 | 2,140 | 132 | 54 | 63 | 106 | 45 |
| 11 | 52 | 86 | 119 | 164 | 928 | 343 | 1,260 | 124 | 53 | 57 | 108 | 51 |
| 12 | 52 | 91 | 113 | 150 | 616 | 292 | 1,300 | 113 | 59 | 56 | 94 | 89 |
| 13 | 56 | 254 | 112 | 142 | 2,550 | 308 | 856 | 106 | 60 | 52 | 79 | 91 |
| 14 | 52 | 246 | 100 | 142 | 1,650 | 422 | 644 | 106 | 53 | 52 | 79 | 105 |
| 15 | 52 | 218 | 95 | 144 | 856 | 422 | 490 | 168 | 49 | 78 | 67 | 192 |
| 16 | 51 | 276 | 330 | 126 | 616 | 652 | 402 | 128 | 48 | 65 | 66 | 188 |
| 17 | 51 | 292 | 727 | 130 | 466 | 1,290 | 343 | 112 | 52 | 53 | 63 | 85 |
| 18 | 88 | 261 | 3,740 | 122 | 788 | 1,070 | 444 | 103 | 49 | 53 | 58 | 73 |
| 19 | 444 | 232 | 1,640 | 117 | 1,600 | 702 | 702 | 134 | 46 | 53 | 62 | 126 |
| 20 | 292 | 218 | 958 | 112 | 1,300 | 513 | 466 | 159 | 43 | 52 | 62 | 146 |
| 21 | 192 | 190 | 616 | 115 | 762 | 422 | 381 | 124 | 45 | 84 | 57 | 113 |
| 22 | 168 | 166 | 490 | 105 | 513 | 362 | 402 | 103 | 43 | 62 | 55 | 206 |
| 23 | 218 | 157 | 513 | 117 | 616 | 343 | 326 | 102 | 41 | 639 | 52 | 343 |
| 24 | 232 | 84 | 362 | 198 | 563 | 513 | 292 | 164 | 41 | 124 | 52 | 292 |
| 25 | 192 | 91 | 538 | 1,640 | 466 | 381 | 246 | 148 | 41 | 78 | 51 | 153 |
| 26 | 155 | 221 | 444 | 752 | 402 | 422 | 218 | 110 | 138 | 67 | 51 | 121 |
| 27 | 157 | 343 | 343 | 444 | 381 | 343 | 192 | 102 | 304 | 103 | 52 | 113 |
| 28 | 192 | 314 | 308 | 308 | 343 | 292 | 192 | 92 | 113 | 112 | 51 | 97 |
| 29 | 168 | 513 | 276 | 261 | 276 | 276 | 218 | 85 | 84 | 191 | 51 | 98 |
| 30 | 146 | 343 | 246 | 276 | 292 | 292 | 205 | 74 | 73 | 119 | 50 | 74 |
| 31 | 119 | | 308 | 381 | 381 | 362 | | 68 | | 137 | 46 | |

| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches |
|-----------|---------|---------|------|-----------------|-------------------|
| October | 444 | 45 | 117 | 0.705 | 0.81 |
| November | 513 | 84 | 185 | 1.11 | 1.24 |
| December | 3,740 | 95 | 451 | 2.72 | 3.14 |
| January | 1,640 | 105 | 323 | 1.95 | 2.26 |
| February | 2,550 | 308 | 789 | 4.75 | 4.95 |
| March | 2,450 | 276 | 579 | 3.49 | 4.02 |
| April | 3,230 | 192 | 581 | 3.50 | 3.90 |
| May | 246 | 68 | 132 | .795 | .92 |
| June | 304 | 41 | 69.3 | .417 | .47 |
| July | 639 | 52 | 97.3 | .586 | .68 |
| August | 452 | 46 | 101 | .608 | .70 |
| September | 343 | 43 | 107 | .645 | .72 |
| The year | 3,740 | 41 | 291 | 1.75 | 23.80 |

Clarion River near Piney, Pa.

Location.— Lat. 41°11'30", long. 79°26'00", at hydroelectric plant of Clarion River Power Co. 2½ miles upstream from Piney, Clarion County, and 3 miles southwest of Clarion.

Drainage area.— 951 square miles.

Records available.— October 1933 to September 1938 in reports of U. S. Geological Survey; October 1924 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 14 years, 1,577 second-feet.

Remarks.— Discharge computed from power-house records. Last three columns of monthly table adjusted for storage. Records furnished by Clarion River Power Co.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|--------|----------|---------|-------|-------------------------|--------|----------------------|-------------------|-------|-------|------|-------|
| 1 | 225 | 1,970 | 1,490 | 4,310 | 2,900 | 1,470 | 2,070 | 956 | 654 | 3,220 | 584 | 99 |
| 2 | 63 | 1,740 | 158 | 4,830 | 1,620 | 1,670 | 2,390 | 1,400 | 918 | 2,680 | 578 | 62 |
| 3 | 63 | 1,740 | 1,550 | 3,710 | 2,460 | 1,790 | 731 | 1,080 | 812 | 1,060 | 606 | 62 |
| 4 | 92 | 1,240 | 1,010 | 3,580 | 2,680 | 1,980 | 1,460 | 1,180 | 723 | 552 | 584 | 63 |
| 5 | 159 | 1,840 | 481 | 2,960 | 3,410 | 3,190 | 1,400 | 1,410 | 395 | 958 | 586 | 129 |
| 6 | 118 | 718 | 1,010 | 1,760 | 1,940 | 11,200 | 1,680 | 1,680 | 575 | 898 | 578 | 63 |
| 7 | 129 | 586 | 1,030 | 236 | 7,860 | 7,970 | 2,160 | 1,040 | 619 | 1,170 | 794 | 65 |
| 8 | 635 | 1,400 | 564 | 2,370 | 6,260 | 5,950 | 2,050 | 422 | 596 | 974 | 454 | 73 |
| 9 | 62 | 1,290 | 341 | 999 | 5,710 | 4,230 | 2,200 | 854 | 569 | 821 | 725 | 148 |
| 10 | 63 | 992 | 685 | 747 | 1,110 | 3,890 | 3,180 | 684 | 608 | 894 | 486 | 62 |
| 11 | 64 | 907 | 551 | 1,390 | 6,560 | 3,390 | 3,720 | 927 | 693 | 1,280 | 582 | 114 |
| 12 | 106 | 979 | 537 | 1,160 | 5,820 | 2,230 | 6,440 | 915 | 658 | 851 | 766 | 63 |
| 13 | 63 | 2,710 | 480 | 965 | 5,500 | 1,340 | 8,560 | 1,180 | 1,860 | 799 | 734 | 63 |
| 14 | 207 | 1,790 | 572 | 1,290 | 7,750 | 3,340 | 7,240 | 525 | 1,140 | 891 | 245 | 293 |
| 15 | 691 | 2,270 | 533 | 1,010 | 6,060 | 4,310 | 6,170 | 465 | 785 | 1,170 | 925 | 1,170 |
| 16 | 60 | 1,940 | 1,550 | 305 | 4,530 | 3,650 | 5,130 | 868 | 638 | 917 | 376 | 2,080 |
| 17 | 61 | 2,410 | 5,610 | 827 | 4,080 | 4,400 | 3,610 | 798 | 670 | 413 | 277 | 1,200 |
| 18 | 285 | 2,020 | 13,800 | 516 | 3,730 | 4,160 | 4,230 | 625 | 570 | 526 | 314 | 59 |
| 19 | 367 | 2,270 | 13,100 | 837 | 5,370 | 4,030 | 6,120 | 760 | 181 | 602 | 63 | 291 |
| 20 | 882 | 1,780 | 7,380 | 750 | 5,750 | 2,850 | 4,740 | 1,090 | 337 | 548 | 62 | 267 |
| 21 | 644 | 685 | 5,560 | 760 | 5,740 | 2,630 | 4,120 | 962 | 507 | 543 | 251 | 211 |
| 22 | 908 | 1,230 | 4,090 | 445 | 4,240 | 2,840 | 4,130 | 1,120 | 336 | 360 | 307 | 61 |
| 23 | 1,990 | 1,100 | 4,170 | 796 | 4,160 | 2,240 | 3,890 | 1,200 | 404 | 589 | 331 | 62 |
| 24 | 1,460 | 1,360 | 4,130 | 798 | 3,400 | 2,690 | 1,410 | 2,130 | 510 | 772 | 257 | 307 |
| 25 | 1,590 | 735 | 2,010 | 3,960 | 2,980 | 3,080 | 2,190 | 2,840 | 596 | 956 | 142 | 171 |
| 26 | 1,010 | 1,270 | 1,830 | 3,530 | 2,510 | 3,180 | 2,130 | 1,690 | 753 | 548 | 62 | 67 |
| 27 | 2,240 | 1,890 | 2,170 | 1,690 | 2,010 | 1,410 | 1,960 | 2,660 | 6,290 | 450 | 176 | 128 |
| 28 | 3,540 | 666 | 1,960 | 2,100 | 2,020 | 2,190 | 1,240 | 1,560 | 5,920 | 449 | 129 | 436 |
| 29 | 5,450 | 1,240 | 1,680 | 1,490 | 1,210 | 1,810 | 767 | 3,520 | 2,260 | 96 | 63 | 63 |
| 30 | 4,040 | 1,530 | 1,680 | 1,160 | 1,920 | 1,400 | 645 | 2,180 | 1,420 | 62 | 62 | 99 |
| 31 | 2,120 | | 2,350 | 2,250 | | 1,840 | | 938 | | 286 | | |
| Month | | Observed | | | Gain or loss in storage | | Adjusted for storage | | | | | |
| | | Maximum | Minimum | Mean | Equiv. Mean | Mean | Per square mile | Run-off in inches | | | | |
| October..... | 5,430 | 60 | 943 | -18 | 925 | 0.973 | 1.12 | | | | | |
| November..... | 2,710 | 586 | 1,483 | +18 | 1,501 | 1.58 | 1.76 | | | | | |
| December..... | 13,800 | 158 | 2,647 | -32 | 2,615 | 2.75 | 3.17 | | | | | |
| January..... | 4,830 | 236 | 1,726 | +36 | 1,762 | 1.85 | 2.13 | | | | | |
| February..... | 7,860 | 1,110 | 4,213 | +3 | 4,416 | 4.64 | 4.83 | | | | | |
| March..... | 11,200 | 1,210 | 3,298 | +5 | 3,303 | 3.47 | 4.00 | | | | | |
| April..... | 8,560 | 731 | 3,319 | +4 | 3,315 | 3.49 | 3.89 | | | | | |
| May..... | 2,840 | 422 | 1,141 | +14 | 1,155 | 1.21 | 1.40 | | | | | |
| June..... | 6,290 | 151 | 1,166 | -9 | 1,157 | 1.22 | 1.36 | | | | | |
| July..... | 3,220 | 286 | 957 | -1 | 956 | 1.01 | 1.16 | | | | | |
| August..... | 925 | 62 | 387 | -6 | 381 | .401 | .46 | | | | | |
| September..... | 2,080 | 59 | 268 | +12 | 280 | .294 | .33 | | | | | |
| The year..... | 13,800 | 59 | 1,778 | +18 | 1,796 | 1.89 | 25.61 | | | | | |

Redbank Creek at St. Charles, Pa.

Location.— Chain gage, lat. 40°59'40", long. 79°23'30", at industrial railroad bridge at St. Charles, Clarion County, a quarter of a mile below mouth of Leatherwood Creek. Zero of gage is 976.24 feet above mean sea level (general adjustment of 1907).

Drainage area.— 528 square miles.

Records available.— October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; October 1909 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 25 years (1910-14, 1915-16, 1918-38), 894 second-feet.

Extremes.— Maximum discharge during year, 17,600 second-feet Dec. 18 (gage height, 11.8 feet, from graph based on gage readings), from rating curve extended on basis of slope-area determination; minimum, 37 second-feet Sept. 10 (gage height, 0.18 foot).

1909-38: Maximum discharge, 35,200 second-feet Mar. 18, 1938 (gage height, 18.60 feet, from floodmarks), from rating curve extended on basis of slope-area determination; minimum, 10 second-feet Aug. 9, 1910.

Remarks.— Records fair. Discharge for day of questionable gage record, Nov. 6, determined by comparison with records for stations in adjacent drainage areas. Discharge for periods of ice effect, Dec. 7-15, Jan. 11-21, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations mentioned above. Gage read twice daily. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|-------|-------|--------|-------|---------|---------|-------|-----------------|-------|-------------------|------|-------|
| 1 | 42 | 1,120 | 705 | 3,160 | 1,050 | 675 | 1,260 | 442 | 442 | 855 | 437 | 51 |
| 2 | 46 | 855 | 540 | 3,560 | 920 | 985 | 1,050 | 420 | 399 | 1,420 | 765 | 49 |
| 3 | 51 | 705 | 558 | 2,560 | 985 | 1,050 | 920 | 490 | 399 | 1,050 | 420 | 46 |
| 4 | 60 | 592 | 378 | 1,590 | 1,190 | 920 | 795 | 490 | 339 | 795 | 286 | 46 |
| 5 | 62 | 490 | 540 | 1,260 | 1,120 | 1,240 | 735 | 620 | 303 | 620 | 286 | 46 |
| 6 | 70 | 440 | 490 | 1,190 | 1,190 | 7,140 | 375 | 490 | 270 | 465 | 189 | 44 |
| 7 | 105 | 399 | 440 | 1,050 | 4,680 | 3,670 | 855 | 420 | 255 | 378 | 187 | 45 |
| 8 | 95 | 358 | 400 | 920 | 3,420 | 1,980 | 1,560 | 358 | 378 | 339 | 373 | 41 |
| 9 | 87 | 339 | 360 | 420 | 1,780 | 1,590 | 4,080 | 339 | 303 | 490 | 286 | 41 |
| 10 | 82 | 321 | 320 | 420 | 4,930 | 1,420 | 4,610 | 358 | 303 | 765 | 286 | 38 |
| 11 | 77 | 303 | 290 | 480 | 3,560 | 1,260 | 2,820 | 358 | 565 | 490 | 270 | 50 |
| 12 | 74 | 255 | 260 | 470 | 2,440 | 1,120 | 4,610 | 339 | 1,060 | 465 | 226 | 74 |
| 13 | 92 | 590 | 230 | 400 | 2,090 | 1,120 | 5,390 | 303 | 1,120 | 358 | 178 | 78 |
| 14 | 86 | 1,120 | 210 | 370 | 2,560 | 2,950 | 3,890 | 303 | 675 | 303 | 153 | 88 |
| 15 | 95 | 920 | 400 | 350 | 1,980 | 5,200 | 2,960 | 303 | 358 | 490 | 134 | 169 |
| 16 | 92 | 920 | 1,130 | 330 | 1,420 | 4,240 | 1,780 | 420 | 339 | 465 | 119 | 178 |
| 17 | 88 | 920 | 3,920 | 350 | 1,190 | 3,560 | 1,340 | 358 | 321 | 339 | 114 | 134 |
| 18 | 86 | 920 | 13,900 | 250 | 1,260 | 2,200 | 1,260 | 321 | 270 | 286 | 112 | 90 |
| 19 | 150 | 855 | 9,870 | 190 | 2,140 | 1,680 | 1,340 | 442 | 226 | 255 | 103 | 74 |
| 20 | 321 | 765 | 5,590 | 190 | 5,160 | 1,590 | 1,190 | 675 | 201 | 240 | 93 | 75 |
| 21 | 321 | 735 | 3,100 | 230 | 3,510 | 1,340 | 920 | 875 | 189 | 303 | 88 | 61 |
| 22 | 303 | 592 | 2,200 | 303 | 2,320 | 1,260 | 920 | 3,510 | 178 | 399 | 78 | 90 |
| 23 | 465 | 515 | 1,590 | 442 | 1,880 | 1,050 | 855 | 2,340 | 213 | 378 | 70 | 114 |
| 24 | 620 | 303 | 1,420 | 555 | 1,590 | 1,120 | 795 | 2,560 | 201 | 321 | 64 | 110 |
| 25 | 540 | 255 | 1,260 | 2,260 | 1,590 | 1,050 | 675 | 2,090 | 189 | 442 | 62 | 93 |
| 26 | 490 | 420 | 1,190 | 1,900 | 1,260 | 920 | 620 | 1,590 | 378 | 286 | 80 | 78 |
| 27 | 784 | 515 | 985 | 1,190 | 1,050 | 855 | 540 | 1,260 | 5,070 | 270 | 87 | 70 |
| 28 | 1,720 | 705 | 985 | 985 | 765 | 735 | 490 | 1,050 | 2,940 | 358 | 53 | 60 |
| 29 | 4,060 | 985 | 985 | 855 | 648 | 490 | 795 | 1,340 | 442 | 46 | 60 | 60 |
| 30 | 2,560 | 920 | 855 | 920 | 648 | 490 | 735 | 985 | 399 | 49 | 49 | 56 |
| 31 | 1,590 | | 795 | 1,500 | | 795 | | 565 | | 303 | 50 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October..... | | | | | 4,060 | 42 | 494 | 0.936 | | 1.08 | | |
| November..... | | | | | 1,120 | 255 | 638 | 1.21 | | 1.35 | | |
| December..... | | | | | 13,900 | 210 | 1,797 | 3.40 | | 3.92 | | |
| January..... | | | | | 3,560 | 190 | 989 | 1.87 | | 2.16 | | |
| February..... | | | | | 5,160 | 765 | 2,108 | 3.99 | | 4.16 | | |
| March..... | | | | | 7,140 | 648 | 1,807 | 3.42 | | 3.94 | | |
| April..... | | | | | 5,390 | 490 | 1,664 | 3.15 | | 3.51 | | |
| May..... | | | | | 3,510 | 303 | 826 | 1.56 | | 1.80 | | |
| June..... | | | | | 5,070 | 178 | 674 | 1.28 | | 1.43 | | |
| July..... | | | | | 1,420 | 240 | 476 | .902 | | 1.04 | | |
| August..... | | | | | 765 | 46 | 182 | .345 | | .40 | | |
| September..... | | | | | 178 | 38 | 75.2 | .142 | | .18 | | |
| The year..... | | | | | 13,900 | 38 | 971 | 1.84 | | 24.95 | | |

Mahoning Creek near Dayton, Pa.

Location.- Chain gage, lat. 40°54'05", long. 79°13'35", at Independence Bridge, three-quarters of a mile above mouth of Foundry Run and 1 3/4 miles northeast of Dayton, Armstrong County. Zero of gage is 1,095.24 feet above mean sea level (general adjustment of 1907).

Drainage area.- 321 square miles.

Records available.- October 1920 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; August 1916 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 18 years (1920-38), 566 second-feet.

Extremes.- Maximum discharge during year, 8,970 second-feet Dec. 18 (gage height, 8.6 feet, from graph based on gage readings); minimum, 28 second-feet Sept. 30 (gage height, 1.67 feet).

1916-38: Maximum discharge observed, 22,800 second-feet Mar. 18, 1936 (gage height, 14.53 feet), from rating curve extended on basis of slope-area determination; minimum, 8.0 second-feet Oct. 17, 1928 (gage height, 1.40 feet).

Remarks.- Records good except those for periods of ice effect, Dec. 3-16, Jan. 11-24, which are fair and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|-----------|-------|------|-------|-------|---------|-------|---------|-------|-------|-------|-----------------|-------|-------------------|--|
| 1 | 42 | 446 | 345 | 3,290 | 535 | 407 | 1,570 | 274 | 241 | 335 | 100 | 46 | | |
| 2 | 42 | 370 | 278 | 2,500 | 500 | 488 | 1,110 | 253 | 211 | 610 | 95 | 42 | | |
| 3 | 39 | 365 | 250 | 1,280 | 500 | 521 | 865 | 226 | 226 | 380 | 88 | 42 | | |
| 4 | 42 | 294 | 230 | 1,110 | 820 | 424 | 730 | 234 | 204 | 274 | 75 | 46 | | |
| 5 | 55 | 241 | 260 | 820 | 650 | 625 | 650 | 274 | 197 | 226 | 64 | 46 | | |
| 6 | 66 | 230 | 240 | 650 | 1,120 | 3,220 | 610 | 211 | 183 | 190 | 55 | 46 | | |
| 7 | 62 | 219 | 190 | 570 | 3,360 | 2,350 | 730 | 197 | 183 | 163 | 118 | 42 | | |
| 8 | 49 | 200 | 150 | 494 | 1,690 | 1,570 | 1,140 | 183 | 278 | 135 | 204 | 40 | | |
| 9 | 51 | 190 | 130 | 317 | 1,570 | 1,010 | 3,360 | 375 | 194 | 234 | 267 | 39 | | |
| 10 | 51 | 176 | 120 | 304 | 2,350 | 960 | 3,510 | 375 | 154 | 743 | 222 | 37 | | |
| 11 | 53 | 147 | 115 | 320 | 1,690 | 820 | 2,630 | 330 | 257 | 445 | 299 | 35 | | |
| 12 | 55 | 121 | 110 | 320 | 1,280 | 690 | 3,060 | 290 | 690 | 1,330 | 238 | 40 | | |
| 13 | 62 | 376 | 105 | 280 | 1,110 | 1,060 | 2,490 | 249 | 385 | 622 | 154 | 70 | | |
| 14 | 75 | 424 | 100 | 250 | 1,060 | 2,770 | 1,690 | 241 | 249 | 610 | 115 | 75 | | |
| 15 | 68 | 345 | 100 | 230 | 775 | 3,970 | 1,110 | 335 | 190 | 563 | 95 | 72 | | |
| 16 | 53 | 380 | 250 | 210 | 610 | 2,770 | 820 | 326 | 163 | 385 | 95 | 62 | | |
| 17 | 42 | 385 | 3,840 | 190 | 542 | 2,490 | 650 | 274 | 144 | 294 | 81 | 55 | | |
| 18 | 62 | 365 | 8,770 | 170 | 650 | 2,080 | 570 | 265 | 127 | 245 | 105 | 49 | | |
| 19 | 141 | 345 | 5,100 | 150 | 910 | 1,690 | 690 | 519 | 108 | 226 | 90 | 42 | | |
| 20 | 183 | 326 | 2,630 | 140 | 2,630 | 1,280 | 549 | 1,110 | 95 | 183 | 72 | 39 | | |
| 21 | 121 | 299 | 1,820 | 130 | 1,950 | 1,010 | 488 | 1,110 | 86 | 150 | 64 | 46 | | |
| 22 | 124 | 249 | 1,110 | 140 | 1,450 | 820 | 488 | 960 | 86 | 138 | 68 | 64 | | |
| 23 | 249 | 204 | 960 | 170 | 1,220 | 690 | 500 | 910 | 219 | 144 | 57 | 81 | | |
| 24 | 396 | 150 | 820 | 450 | 1,010 | 650 | 412 | 1,950 | 150 | 121 | 49 | 75 | | |
| 25 | 270 | 121 | 730 | 1,950 | 775 | 610 | 380 | 1,280 | 102 | 121 | 46 | 58 | | |
| 26 | 249 | 290 | 610 | 1,280 | 690 | 556 | 345 | 910 | 182 | 90 | 46 | 49 | | |
| 27 | 259 | 304 | 556 | 910 | 556 | 514 | 308 | 690 | 1,610 | 112 | 46 | 42 | | |
| 28 | 1,260 | 412 | 570 | 556 | 452 | 452 | 290 | 514 | 1,180 | 138 | 46 | 39 | | |
| 29 | 3,980 | 488 | 514 | 528 | 429 | 429 | 274 | 412 | 507 | 138 | 46 | 34 | | |
| 30 | 1,620 | 440 | 464 | 542 | 429 | 429 | 294 | 350 | 345 | 110 | 46 | 29 | | |
| 31 | 775 | | 482 | 690 | | 771 | | 294 | | 90 | 46 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October | | | | | 3,980 | | 39 | | 342 | | 1.07 | | 1.23 | |
| November | | | | | 488 | | 121 | | 297 | | .925 | | 1.03 | |
| December | | | | | 8,770 | | 100 | | 1,031 | | 3.21 | | 3.70 | |
| January | | | | | 3,290 | | 130 | | 676 | | 2.11 | | 2.43 | |
| February | | | | | 3,360 | | 452 | | 1,159 | | 3.61 | | 3.76 | |
| March | | | | | 3,970 | | 407 | | 1,230 | | 3.83 | | 4.42 | |
| April | | | | | 3,510 | | 274 | | 1,077 | | 3.36 | | 3.75 | |
| May | | | | | 1,950 | | 183 | | 514 | | 1.60 | | 1.84 | |
| June | | | | | 1,610 | | 86 | | 298 | | .928 | | 1.04 | |
| July | | | | | 1,330 | | 90 | | 308 | | .960 | | 1.11 | |
| August | | | | | 299 | | 46 | | 103 | | .321 | | .37 | |
| September | | | | | 81 | | 29 | | 49.4 | | .154 | | .17 | |
| The year | | | | | 8,770 | | 29 | | 587 | | 1.83 | | 24.85 | |

Crooked Creek at Idaho, Pa.

Location.- Water-stage recorder, lat. 40°39'15", long. 79°21'00", at highway bridge at Idaho, Armstrong County, 1 1/4 miles below mouth of Plum Creek and 2 1/4 miles west of Shelocta. Zero of gage is 961.02 feet above mean sea level (Buffalo, Rochester & Pittsburgh Railway benchmark).

Drainage area.- 191 square miles.

Records available.- February to September 1938.

Extremes.- Maximum discharge during period, 3,440 second-feet Apr. 9 (gage height, 7.33 feet), from rating curve extended above 800 second-feet; minimum, 6.3 second-feet Aug. 5, 7 (gage height, 0.40 foot).

Maximum stage known, 18.57 feet, from floodmark, March 1936 (discharge not determined).

Remarks.- Records good except those for high stages, which are fair.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|------|------|------|------|------|---------|---------|-------|-----------------|------|-------------------|-------|
| 1 | | | | | | 223 | 716 | 105 | 87 | 190 | 60 | 9.3 |
| 2 | | | | | | 254 | 506 | 91 | 89 | 301 | 56 | 9.3 |
| 3 | | | | | | 292 | 384 | 82 | 112 | 177 | 44 | 8.7 |
| 4 | | | | | | 220 | 306 | 78 | 73 | 116 | 35 | 8.1 |
| 5 | | | | | | 345 | 246 | 75 | 69 | 89 | 55 | 6.9 |
| 6 | | | | | | 1,500 | 228 | 67 | 67 | 71 | 29 | 8.1 |
| 7 | | | | | | 959 | 504 | 56 | 64 | 60 | 88 | 6.9 |
| 8 | | | | | | 620 | 1,640 | 48 | 78 | 48 | 100 | 23 |
| 9 | | | | | | 429 | 2,790 | 54 | 48 | 74 | 182 | 12 |
| 10 | | | | | | 344 | 2,080 | 72 | 44 | 119 | 96 | 9.3 |
| 11 | | | | | | 301 | 1,170 | 74 | 91 | 118 | 290 | 8.1 |
| 12 | | | | | | 265 | 760 | 54 | 133 | 740 | 126 | 23 |
| 13 | | | | | | 455 | 528 | 48 | 105 | 320 | 82 | 90 |
| 14 | | | | | | 1,820 | 393 | 56 | 67 | 408 | 60 | 34 |
| 15 | | | | | | 2,200 | 321 | 89 | 48 | 303 | 46 | 26 |
| 16 | | | | | | 1,420 | 265 | 75 | 44 | 182 | 35 | 23 |
| 17 | | | | | | 1,510 | 220 | 56 | 40 | 126 | 32 | 16 |
| 18 | | | | | | 957 | 215 | 92 | 37 | 112 | 26 | 13 |
| 19 | | | | | | 660 | 241 | 280 | 30 | 103 | 22 | 12 |
| 20 | | | | | | 495 | 194 | 362 | 27 | 75 | 18 | 12 |
| 21 | | | | | | 384 | 192 | 365 | 22 | 78 | 17 | 12 |
| 22 | | | | | | 306 | 218 | 546 | 32 | 163 | 17 | 13 |
| 23 | | | | | | 278 | 197 | 457 | 143 | 124 | 13 | 31 |
| 24 | | | | | | 262 | 167 | 1,160 | 52 | 84 | 12 | 29 |
| 25 | | | | | | 207 | 157 | 749 | 38 | 67 | 12 | 17 |
| 26 | | | | | | 212 | 130 | 491 | 74 | 46 | 11 | 13 |
| 27 | | | | | 309 | 190 | 114 | 347 | 1,030 | 52 | 10 | 12 |
| 28 | | | | | 228 | 160 | 103 | 246 | 587 | 172 | 93 | 11 |
| 29 | | | | | | 147 | 133 | 184 | 301 | 183 | 99 | 10 |
| 30 | | | | | | 177 | 116 | 135 | 184 | 91 | 99 | 9.9 |
| 31 | | | | | | 525 | | 103 | | 64 | 87 | |
| Month | | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | |
| October..... | | | | | | | | | | | | |
| November..... | | | | | | | | | | | | |
| December..... | | | | | | | | | | | | |
| January..... | | | | | | | | | | | | |
| February..... | | | | | | | | | | | | |
| March..... | | | | | | 2,200 | 147 | 528 | 3.03 | | 3.49 | |
| April..... | | | | | | 2,790 | 103 | 507 | 2.65 | | 2.96 | |
| May..... | | | | | | 1,160 | 48 | 215 | 1.13 | | 1.30 | |
| June..... | | | | | | 1,030 | 22 | 127 | .665 | | .74 | |
| July..... | | | | | | 740 | 46 | 157 | .822 | | .95 | |
| August..... | | | | | | 290 | 8.7 | 51.3 | .269 | | .31 | |
| September..... | | | | | | 90 | 6.9 | 17.2 | .090 | | .10 | |
| The year..... | | | | | | | | | | | | |

Crooked Creek near Ford City, Pa.

Location.— Chain gage, lat. 40°43'00", long. 79°31'50", at highway bridge $\frac{3}{4}$ miles south of Ford City, Armstrong County, and 5 miles above mouth. Zero of gage is 786.12 feet above mean sea level (general adjustment of 1907).

Drainage area.— 280 square miles.

Records available.— October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; October 1909 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 27 years (1910-13, 1914-38), 439 second-feet.

Extremes.— Maximum discharge during year, 8,350 second-feet Dec. 18 (gage height, 11.3 feet, from graph based on gage readings); minimum, 6.3 second-feet Aug. 22, Sept. 7 (gage height, 0.84 foot); minimum daily discharge, 7.2 second-feet Sept. 7.

1909-38: Maximum discharge, 21,000 second-feet Mar. 18, 1936 (gage height, 17.86 feet, from floodmark), from rating curve extended on basis of contracted-opening determination; minimum observed, 0.1 second-foot Sept. 11, 25, 26, 1932.

Remarks.— Records good except those for periods of ice effect, Dec. 3-18, Jan. 11 to Feb. 6, which are poor and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|---------|-------|-----------------|-------------------|-------|-------|-------|-------|------|------|-------|
| 1 | 8.5 | 402 | 244 | 1,170 | 450 | 237 | 775 | 155 | 132 | 280 | 68 | 11 |
| 2 | 8.5 | 302 | 181 | 1,360 | 330 | 344 | 640 | 122 | 118 | 397 | 60 | 10 |
| 3 | 7.5 | 244 | 150 | 920 | 350 | 361 | 555 | 113 | 136 | 327 | 68 | 11 |
| 4 | 8.0 | 193 | 130 | 640 | 450 | 344 | 435 | 112 | 127 | 265 | 50 | 11 |
| 5 | 10 | 158 | 140 | 515 | 400 | 376 | 344 | 104 | 107 | 127 | 35 | 12 |
| 6 | 16 | 147 | 150 | 379 | 370 | 1,740 | 295 | 100 | 104 | 113 | 38 | 9.5 |
| 7 | 42 | 180 | 130 | 361 | 1,780 | 1,370 | 528 | 92 | 94 | 85 | 58 | 7.2 |
| 8 | 28 | 111 | 115 | 344 | 1,190 | 775 | 1,510 | 75 | 99 | 82 | 140 | 11 |
| 9 | 19 | 95 | 100 | 155 | 920 | 618 | 3,560 | 75 | 88 | 76 | 145 | 15 |
| 10 | 18 | 90 | 90 | 176 | 1,600 | 495 | 3,680 | 96 | 80 | 102 | 140 | 22 |
| 11 | 17 | 75 | 82 | 190 | 1,190 | 435 | 2,060 | 113 | 187 | 418 | 187 | 16 |
| 12 | 17 | 88 | 75 | 170 | 870 | 379 | 1,190 | 91 | 280 | 870 | 165 | 15 |
| 13 | 24 | 554 | 70 | 150 | 685 | 455 | 775 | 65 | 199 | 457 | 113 | 15 |
| 14 | 24 | 350 | 66 | 140 | 618 | 2,000 | 595 | 65 | 145 | 406 | 82 | 164 |
| 15 | 24 | 257 | 64 | 150 | 495 | 2,900 | 475 | 108 | 104 | 379 | 69 | 50 |
| 16 | 23 | 272 | 450 | 120 | 397 | 2,030 | 379 | 122 | 91 | 237 | 56 | 26 |
| 17 | 18 | 272 | 4,610 | 110 | 327 | 2,030 | 295 | 100 | 76 | 165 | 42 | 27 |
| 18 | 17 | 272 | 7,900 | 100 | 344 | 1,440 | 251 | 100 | 68 | 141 | 35 | 23 |
| 19 | 45 | 244 | 4,900 | 94 | 505 | 1,020 | 311 | 441 | 64 | 138 | 33 | 21 |
| 20 | 124 | 257 | 1,740 | 88 | 3,000 | 685 | 280 | 780 | 53 | 110 | 20 | 19 |
| 21 | 75 | 244 | 970 | 92 | 2,420 | 575 | 251 | 555 | 42 | 91 | 22 | 15 |
| 22 | 69 | 193 | 730 | 120 | 1,310 | 455 | 251 | 778 | 57 | 216 | 12 | 23 |
| 23 | 234 | 170 | 555 | 220 | 970 | 435 | 265 | 730 | 148 | 113 | 13 | 27 |
| 24 | 385 | 136 | 435 | 600 | 730 | 379 | 237 | 1,420 | 125 | 105 | 13 | 39 |
| 25 | 218 | 158 | 416 | 1,500 | 575 | 280 | 199 | 1,130 | 69 | 91 | 14 | 38 |
| 26 | 170 | 193 | 379 | 1,200 | 475 | 280 | 187 | 618 | 114 | 76 | 14 | 26 |
| 27 | 205 | 205 | 311 | 600 | 435 | 265 | 155 | 495 | 1,640 | 68 | 14 | 20 |
| 28 | 1,430 | 286 | 379 | 400 | 327 | 224 | 145 | 361 | 1,120 | 102 | 12 | 16 |
| 29 | 3,780 | 334 | 435 | 300 | 199 | 155 | 265 | 580 | 237 | 12 | 14 | 14 |
| 30 | 1,390 | 317 | 416 | 350 | 265 | 176 | 211 | 327 | 176 | 10 | 12 | 12 |
| 31 | 670 | 379 | 600 | 495 | | | 165 | | 92 | 12 | | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October | 3,780 | 7.5 | 294 | 1.05 | 1.21 | | | | | | | |
| November | 554 | 75 | 225 | .804 | .90 | | | | | | | |
| December | 7,900 | 64 | 864 | 3.09 | 3.58 | | | | | | | |
| January | 1,500 | 88 | 429 | 1.53 | 1.76 | | | | | | | |
| February | 3,000 | 327 | 840 | 3.00 | 3.12 | | | | | | | |
| March | 2,900 | 199 | 771 | 2.75 | 3.17 | | | | | | | |
| April | 3,680 | 145 | 698 | 2.49 | 2.78 | | | | | | | |
| May | 1,420 | 65 | 315 | 1.12 | 1.29 | | | | | | | |
| June | 1,640 | 42 | 219 | .782 | .87 | | | | | | | |
| July | 870 | 68 | 211 | .754 | .87 | | | | | | | |
| August | 187 | 10 | 56.5 | .202 | .23 | | | | | | | |
| September | 164 | 7.2 | 24.2 | .086 | .10 | | | | | | | |
| The year | 7,900 | 7.2 | 410 | 1.46 | 19.86 | | | | | | | |

Conemaugh River at Seward, Pa.

Location.— Water-stage recorder, lat. 40°25'10", long. 79°01'40", at highway bridge at Seward, Westmoreland County, 9 miles northwest of Johnstown. Zero of gage is 1,075.64 feet above mean sea level (preliminary levels of 1920).

Drainage area.— 715 square miles.

Records available.— May to September 1938.

Extremes.— Maximum discharge during period, 3,160 second-feet July 23 (gage height, 4.77 feet); minimum, 157 second-feet Sept. 6 (gage height, 2.53 feet). Maximum stage known, 26.4 feet, from floodmarks, Mar. 18, 1936 (discharge, about 90,000 second-feet).

Remarks.— Records fair. Discharge for period of recorder failure, June 7-13, determined from range in stage shown by recorder chart, and by comparison with records for stations downstream. Regulation from operation of steel mills and storage in several reservoirs upstream. Last three columns of monthly table adjusted for storage in eight of the larger reservoirs which have a combined storage capacity of 2,060,120,000 cubic feet; no corrections made for evaporation. Records of storage furnished by Bethlehem Steel Co., and Johnstown Water Co.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|----------|---------|------|-----------------------------|------|----------------------|-----------------|-------------------|-------|-------|------|-------|
| 1 | | | | | | | | | 816 | 398 | 271 | 202 |
| 2 | | | | | | | | | 792 | 455 | 271 | 198 |
| 3 | | | | | | | | | 853 | 405 | 266 | 184 |
| 4 | | | | | | | | | 743 | 339 | 250 | 164 |
| 5 | | | | | | | | | 664 | 320 | 245 | 164 |
| 6 | | | | | | | | | 664 | 314 | 229 | 176 |
| 7 | | | | | | | | | 660 | 301 | 229 | 256 |
| 8 | | | | | | | | | 750 | 282 | 224 | 240 |
| 9 | | | | | | | | | 700 | 301 | 271 | 240 |
| 10 | | | | | | | | | 750 | 282 | 319 | 224 |
| 11 | | | | | | | | | 900 | 282 | 640 | 240 |
| 12 | | | | | | | | | 900 | 418 | 429 | 256 |
| 13 | | | | | | | | | 950 | 332 | 301 | 390 |
| 14 | | | | | | | | | 708 | 296 | 245 | 382 |
| 15 | | | | | | | | | 558 | 277 | 234 | 301 |
| 16 | | | | | | | | | 482 | 250 | 240 | 256 |
| 17 | | | | | | | | | 464 | 220 | 229 | 224 |
| 18 | | | | | | | | | 429 | 329 | 234 | 193 |
| 19 | | | | | | | | | 398 | 412 | 256 | 216 |
| 20 | | | | | | | | | 375 | 314 | 216 | 234 |
| 21 | | | | | | | | | 390 | 277 | 184 | 234 |
| 22 | | | | | | | | | 447 | 393 | 188 | 240 |
| 23 | | | | | | | | | 455 | 1,310 | 198 | 266 |
| 24 | | | | | | | | | 382 | 668 | 202 | 240 |
| 25 | | | | | | | | | 360 | 412 | 198 | 220 |
| 26 | | | | | | | | | 439 | 339 | 198 | 206 |
| 27 | | | | | | | | | 747 | 314 | 184 | 202 |
| 28 | | | | | | | | | 1,530 | 840 | 332 | 172 |
| 29 | | | | | | | | | 1,250 | 558 | 345 | 172 |
| 30 | | | | | | | | | 1,070 | 438 | 288 | 184 |
| 31 | | | | | | | | | 905 | 250 | 198 | 211 |
| Month | Observed | | | Gain or Loss Storage (Mean) | | Adjusted for storage | | | | | | |
| | Maximum | Minimum | Mean | | | Mean | Per square mile | Run-off in inches | | | | |
| October | | | | | | | | | | | | |
| November | | | | | | | | | | | | |
| December | | | | | | | | | | | | |
| January | | | | | | | | | | | | |
| February | | | | | | | | | | | | |
| March | | | | | | | | | | | | |
| April | | | | | | | | | | | | |
| May | | | | | | | | | | | | |
| June | 930 | 360 | 616 | -36.6 | | 579 | 0.810 | 0.90 | | | | |
| July | 1,310 | 220 | 369 | -43.2 | | 326 | .456 | .55 | | | | |
| August | 640 | 172 | 248 | -47.8 | | 200 | .280 | .32 | | | | |
| September | 390 | 164 | 232 | -75.0 | | 167 | .220 | .25 | | | | |
| The year | | | | | | | | | | | | |

Kiskiminetas River at Vandergrift, Pa.

Location.— Water-stage recorder, lat. 40°36'20", long. 79°33'15", a third of a mile above highway bridge at Vandergrift, Westmoreland County, two-thirds of a mile above former gaging station, and 2 miles above mouth of Pine Run. Zero of gage is 769.40 feet above mean sea level (Corps of Engineers, U. S. Army benchmark).

Drainage area.— 1,825 square miles.

Records available.— August 1937 to September 1938 in reports of U. S. Geological Survey; November 1915 to September 1938 in reports of Pennsylvania Department of Forests and Waters (gage heights only prior to 1937).

Extremes.— Maximum discharge during year, 40,300 second-feet Dec. 18 (gage height, 19.37 feet); minimum, 245 second-feet Sept. 7 (gage height, 2.99 feet).

1915-38: Maximum discharge, 185,000 second-feet (revised) Mar. 18, 1936 (gage height, 41.64 feet, from floodmark at present site), from rating curve extended on basis of slope-area determinations; minimum not determined.

Remarks.— Records excellent except those for period of ice effect, Dec. 9-17, which are good and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations upstream. Regulation from operation of steel mills and storage in several reservoirs upstream. Last three columns of monthly table adjusted for storage in eight of the larger reservoirs which have a combined storage capacity of 2,060,120,000 cubic feet; no corrections made for evaporation. Records of storage furnished by Bethlehem Steel Co. and Johnstown Water Co.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|--------|-------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1 | 447 | 4,530 | 2,540 | 5,730 | 3,520 | 2,260 | 5,780 | 1,700 | 1,700 | 1,320 | 568 | 292 |
| 2 | 435 | 3,440 | 2,120 | 10,200 | 2,780 | 2,300 | 4,720 | 1,550 | 1,550 | 1,320 | 594 | 338 |
| 3 | 423 | 2,870 | 1,840 | 6,610 | 2,780 | 2,600 | 3,840 | 1,420 | 1,600 | 1,370 | 607 | 342 |
| 4 | 404 | 2,420 | 1,680 | 5,000 | 3,220 | 2,850 | 3,290 | 1,320 | 1,600 | 1,110 | 522 | 301 |
| 5 | 412 | 2,120 | 1,740 | 4,020 | 3,140 | 2,580 | 2,920 | 1,320 | 1,420 | 910 | 468 | 275 |
| 6 | 527 | 1,900 | 1,840 | 3,290 | 2,990 | 9,760 | 2,580 | 1,240 | 1,280 | 797 | 440 | 261 |
| 7 | 673 | 1,740 | 1,630 | 3,060 | 12,500 | 10,400 | 2,920 | 1,120 | 1,240 | 741 | 838 | 261 |
| 8 | 625 | 1,580 | 1,150 | 3,140 | 10,600 | 6,830 | 5,040 | 1,040 | 1,370 | 692 | 839 | 323 |
| 9 | 522 | 1,480 | 1,000 | 2,380 | 7,050 | 5,000 | 11,900 | 985 | 1,600 | 672 | 666 | 440 |
| 10 | 504 | 1,580 | 920 | 1,750 | 7,050 | 4,100 | 15,200 | 932 | 1,240 | 882 | 848 | 364 |
| 11 | 522 | 1,240 | 860 | 2,140 | 7,050 | 3,600 | 10,200 | 962 | 1,770 | 1,030 | 5,620 | 350 |
| 12 | 531 | 1,150 | 820 | 2,140 | 5,580 | 3,360 | 7,730 | 992 | 1,840 | 1,160 | 2,520 | 395 |
| 13 | 560 | 1,740 | 800 | 1,970 | 4,540 | 3,440 | 6,190 | 902 | 3,610 | 1,240 | 1,400 | 1,010 |
| 14 | 550 | 2,560 | 800 | 1,800 | 4,560 | 7,860 | 5,000 | 853 | 2,580 | 895 | 992 | 1,160 |
| 15 | 518 | 2,240 | 850 | 1,700 | 4,180 | 21,700 | 4,180 | 1,160 | 1,920 | 762 | 748 | 910 |
| 16 | 500 | 2,010 | 2,000 | 1,600 | 3,290 | 17,000 | 3,600 | 2,020 | 1,500 | 678 | 672 | 755 |
| 17 | 479 | 1,900 | 17,000 | 1,550 | 2,850 | 13,700 | 3,140 | 1,920 | 1,370 | 614 | 600 | 600 |
| 18 | 471 | 1,840 | 34,100 | 1,600 | 2,710 | 10,700 | 2,780 | 1,650 | 1,240 | 588 | 607 | 484 |
| 19 | 531 | 1,740 | 26,100 | 1,460 | 3,440 | 8,210 | 3,680 | 3,090 | 1,100 | 1,010 | 614 | 405 |
| 20 | 865 | 1,680 | 12,100 | 1,370 | 10,200 | 6,400 | 4,180 | 7,970 | 985 | 1,110 | 501 | 372 |
| 21 | 1,040 | 1,630 | 7,500 | 1,370 | 8,700 | 5,390 | 3,290 | 8,450 | 895 | 846 | 446 | 400 |
| 22 | 988 | 1,480 | 5,580 | 3,130 | 5,980 | 4,560 | 3,140 | 8,950 | 937 | 747 | 381 | 400 |
| 23 | 1,300 | 1,380 | 4,630 | 4,630 | 5,100 | 3,760 | 2,920 | 6,830 | 1,800 | 633 | 342 | 525 |
| 24 | 2,300 | 1,240 | 3,940 | 4,720 | 4,450 | 3,440 | 2,520 | 9,200 | 1,360 | 1,720 | 335 | 574 |
| 25 | 1,950 | 1,100 | 3,360 | 6,190 | 3,760 | 3,060 | 2,260 | 8,600 | 1,050 | 1,090 | 323 | 543 |
| 26 | 1,530 | 1,330 | 3,140 | 9,200 | 3,290 | 2,780 | 2,080 | 5,780 | 1,080 | 804 | 319 | 425 |
| 27 | 1,420 | 1,630 | 2,710 | 5,580 | 3,060 | 2,920 | 1,920 | 4,360 | 2,350 | 804 | 312 | 364 |
| 28 | 6,470 | 2,240 | 2,520 | 4,560 | 2,780 | 2,580 | 1,800 | 3,520 | 3,680 | 846 | 305 | 342 |
| 29 | 30,200 | 2,800 | 2,620 | 3,140 | 2,260 | 1,750 | 2,780 | 2,380 | 783 | 295 | 319 | |
| 30 | 12,400 | 3,010 | 2,520 | 3,440 | 2,200 | 1,800 | 2,320 | 1,650 | 769 | 275 | 316 | |
| 31 | 6,770 | | 2,450 | 3,760 | | 3,140 | | 1,970 | | 706 | 278 | |

| Month | Observed | | | Gain or Loss in Storage | Adjusted for storage | | |
|----------------|----------|---------|-------|-------------------------|----------------------|-----------------|-------------------|
| | Maximum | Minimum | Mean | | Mean | Per square mile | Run-off in inches |
| October..... | 30,200 | 404 | 2,480 | +66.9 | 2,547 | 1.40 | 1.61 |
| November..... | 4,530 | 1,100 | 1,973 | - 2.4 | 1,971 | 1.08 | 1.20 |
| December..... | 34,100 | 800 | 4,965 | +117 | 5,042 | 2.76 | 3.18 |
| January..... | 10,200 | 1,370 | 3,614 | +13.7 | 3,628 | 1.99 | 2.29 |
| February..... | 12,500 | 2,710 | 5,027 | - 1.6 | 5,025 | 2.75 | 2.86 |
| March..... | 21,700 | 2,200 | 5,824 | - 4.1 | 5,820 | 3.19 | 3.68 |
| April..... | 15,200 | 1,750 | 4,412 | +50.4 | 4,462 | 2.44 | 2.72 |
| May..... | 9,200 | 853 | 3,126 | +11.4 | 3,137 | 1.72 | 1.98 |
| June..... | 3,680 | 895 | 1,657 | -36.6 | 1,620 | .888 | .99 |
| July..... | 1,720 | 588 | 924 | -43.2 | 881 | .483 | .56 |
| August..... | 5,620 | 275 | 783 | -47.8 | 735 | .403 | .46 |
| September..... | 1,160 | 261 | 462 | -75.0 | 387 | .212 | .24 |
| The year..... | 34,100 | 261 | 2,925 | + 4.4 | 2,929 | 1.60 | 21.77 |

Blacklick Creek at Blacklick, Pa.

Location.— Chain gage, lat. 40°28'25", long. 79°12'15", at highway bridge at Gratton, a quarter of a mile northwest of Blacklick, Indiana County, and three-quarters of a mile below mouth of Two Lick Creek. Zero of gage is 945.94 feet above mean sea level (Pennsylvania State highway benchmark).

Drainage area.— 390 square miles.

Records available.— August 1904 to September 1913, October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; August 1904 to December 1905, January 1907 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 31 years (1907-38), 677 second-feet.

Extremes.— Maximum discharge during year, 15,300 second-feet Dec. 18 (gage height, 10.3 feet, from graph based on gage readings), from rating curve extended on basis of slope-area determination; minimum, 24 second-feet Aug. 27 (gage height, 2.54 feet); minimum daily discharge, 27 second-feet Aug. 23, 27.

1904-37: Maximum discharge, 51,700 second-feet Mar. 18, 1936 (gage height, 15.88 feet, from floodmark), from rating curve extended on basis of slope-area determination; minimum, 6 second-feet Sept. 12, 16-27, 1908 (gage height, 1.88 feet).

Remarks.— Records good except those for periods of missing gage record, Oct. 2, Jan. 26, Apr. 8-13 (determined by comparison with records for stations in adjacent drainage areas), and those for periods of ice effect, Nov. 23-25, Dec. 8-16, Jan. 10-21 (determined from gage heights, weather records, one discharge measurement, and by comparison with records mentioned above), which are fair. Gage read twice daily. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|-------|--------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1 | 61 | 920 | 562 | 3,260 | 635 | 455 | 1,430 | 318 | 277 | 339 | 87 | 53 |
| 2 | 65 | 705 | 415 | 2,600 | 612 | 612 | 1,060 | 282 | 258 | 488 | 98 | 44 |
| 3 | 77 | 612 | 329 | 1,610 | 635 | 875 | 875 | 244 | 292 | 345 | 74 | 31 |
| 4 | 59 | 443 | 350 | 1,210 | 920 | 548 | 745 | 244 | 235 | 230 | 65 | 42 |
| 5 | 74 | 437 | 548 | 965 | 705 | 825 | 620 | 235 | 230 | 200 | 63 | 39 |
| 6 | 192 | 407 | 395 | 745 | 936 | 3,930 | 548 | 205 | 200 | 165 | 61 | 30 |
| 7 | 101 | 313 | 230 | 830 | 4,120 | 2,160 | 830 | 192 | 196 | 161 | 98 | 34 |
| 8 | 72 | 308 | 260 | 665 | 2,070 | 1,380 | 1,400 | 176 | 282 | 140 | 84 | 57 |
| 9 | 61 | 292 | 230 | 395 | 1,650 | 1,060 | 2,700 | 180 | 188 | 205 | 150 | 59 |
| 10 | 72 | 268 | 210 | 450 | 2,670 | 920 | 3,000 | 200 | 175 | 451 | 101 | 45 |
| 11 | 101 | 244 | 250 | 420 | 1,550 | 705 | 2,500 | 244 | 268 | 209 | 169 | 45 |
| 12 | 77 | 226 | 240 | 370 | 1,260 | 705 | 1,800 | 184 | 665 | 425 | 129 | 63 |
| 13 | 87 | 481 | 230 | 330 | 1,110 | 938 | 1,400 | 173 | 965 | 239 | 90 | 213 |
| 14 | 77 | 462 | 230 | 300 | 1,110 | 2,900 | 1,060 | 231 | 548 | 192 | 67 | 143 |
| 15 | 67 | 373 | 240 | 270 | 920 | 4,660 | 920 | 602 | 350 | 176 | 61 | 146 |
| 16 | 70 | 407 | 3,000 | 240 | 705 | 3,170 | 745 | 384 | 273 | 157 | 55 | 146 |
| 17 | 65 | 419 | 8,280 | 280 | 590 | 2,610 | 658 | 277 | 235 | 119 | 61 | 80 |
| 18 | 63 | 356 | 13,000 | 260 | 705 | 1,930 | 620 | 361 | 205 | 154 | 59 | 63 |
| 19 | 302 | 1,230 | 5,490 | 230 | 1,380 | 1,490 | 830 | 520 | 157 | 188 | 47 | 55 |
| 20 | 273 | 385 | 2,510 | 220 | 5,280 | 1,160 | 620 | 1,290 | 176 | 136 | 39 | 61 |
| 21 | 339 | 287 | 1,670 | 230 | 1,800 | 965 | 541 | 1,210 | 132 | 119 | 39 | 70 |
| 22 | 300 | 282 | 1,210 | 920 | 1,430 | 830 | 605 | 1,060 | 244 | 196 | 31 | 92 |
| 23 | 768 | 220 | 1,110 | 1,160 | 1,320 | 705 | 520 | 788 | 500 | 268 | 27 | 126 |
| 24 | 689 | 180 | 830 | 1,380 | 1,110 | 642 | 425 | 1,670 | 244 | 161 | 31 | 116 |
| 25 | 488 | 210 | 830 | 2,070 | 920 | 534 | 407 | 1,260 | 176 | 126 | 31 | 72 |
| 26 | 378 | 303 | 745 | 1,500 | 830 | 576 | 389 | 965 | 331 | 101 | 30 | 55 |
| 27 | 646 | 541 | 590 | 1,060 | 705 | 562 | 334 | 745 | 1,480 | 84 | 27 | 49 |
| 28 | 6,160 | 520 | 583 | 875 | 474 | 455 | 303 | 583 | 1,220 | 92 | 29 | 45 |
| 29 | 5,620 | 875 | 705 | 745 | | 395 | 334 | 468 | 612 | 110 | 30 | 47 |
| 30 | 2,380 | 705 | 605 | 745 | | 389 | 329 | 378 | 401 | 104 | 31 | 47 |
| 31 | 1,320 | | 598 | 1,060 | | 1,060 | 303 | | | 87 | 31 | |

| Month | Observed | | | Gain or Loss in Storage | Adjusted for storage | | |
|----------------|----------|---------|-------|-------------------------|----------------------|-----------------|-------------------|
| | Maximum | Minimum | Mean | | Mean | Per square mile | Run-off in inches |
| October..... | 6,160 | 59 | 681 | 1.75 | 1.75 | 1.75 | 2.02 |
| November..... | 1,230 | 180 | 447 | 1.15 | 1.15 | 1.15 | 1.28 |
| December..... | 13,000 | 210 | 1,499 | 3.84 | 3.84 | 3.84 | 4.43 |
| January..... | 3,260 | 220 | 884 | 2.27 | 2.27 | 2.27 | 2.62 |
| February..... | 5,280 | 474 | 1,359 | 3.48 | 3.48 | 3.48 | 3.62 |
| March..... | 4,660 | 389 | 1,292 | 3.31 | 3.31 | 3.31 | 3.82 |
| April..... | 3,000 | 303 | 952 | 2.44 | 2.44 | 2.44 | 2.72 |
| May..... | 1,670 | 173 | 515 | 1.32 | 1.32 | 1.32 | 1.52 |
| June..... | 1,480 | 157 | 384 | .985 | .985 | .985 | 1.10 |
| July..... | 488 | 84 | 188 | .508 | .508 | .508 | .59 |
| August..... | 169 | 27 | 64.4 | .165 | .165 | .165 | .19 |
| September..... | 213 | 30 | 72.3 | .185 | .185 | .185 | .21 |
| The year..... | 13,000 | 27 | 693 | 1.78 | 1.78 | 1.78 | 24.12 |

Loyalhanna Creek at New Alexandria, Pa.

Location.— Wire-weight gage, lat. 40°23'40", long. 79°25'55", at highway bridge at New Alexandria, Westmoreland County, 1 3/4 miles below mouth of Crabtree Creek. Zero of gage is 917.26 feet above mean sea level (general adjustment of 1912).

Drainage area.— 265 square miles.

Records available.— October 1919 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; August 1913 to July 1923, November 1925 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 15 years (1919-22, 1926-38), 453 second-feet.

Extremes.— Maximum discharge during year, 8,500 second-feet Oct. 28 (gage height, 9.8 feet, from graph based on gage readings), from rating curve extended on basis of slope-area and contracted-opening determinations; minimum, 4.4 second-feet Sept. 5 (gage height, 1.92 feet); minimum daily discharge, 11 second-feet Sept. 6.

1913-23, 1925-38: Maximum discharge, 31,000 second-feet Mar. 18, 1936 (gage height, 20.96 feet, from floodmark), from rating curve extended on basis of slope-area and contracted-opening determinations; minimum, 2.4 second-feet Oct. 3, 1927 (gage height, 1.48 feet).

Remarks.— Records fair. Discharge for period of ice effect, Dec. 8-16, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|---------|---------|-------|-----------------|-------------------|-------|-------|-------|------|------|-------|-------|
| 1 | 19 | 546 | 340 | 914 | 468 | 331 | 614 | 239 | 157 | 81 | 76 | 50 |
| 2 | 19 | 350 | 252 | 937 | 408 | 354 | 452 | 218 | 173 | 93 | 70 | 62 |
| 3 | 17 | 298 | 202 | 767 | 531 | 420 | 402 | 186 | 186 | 64 | 45 | 35 |
| 4 | 23 | 235 | 171 | 581 | 586 | 378 | 359 | 148 | 142 | 45 | 50 | 18 |
| 5 | 58 | 231 | 287 | 487 | 468 | 471 | 313 | 148 | 120 | 47 | 45 | 12 |
| 6 | 65 | 208 | 159 | 378 | 1,380 | 3,200 | 286 | 156 | 135 | 52 | 36 | 11 |
| 7 | 47 | 171 | 105 | 487 | 2,220 | 1,410 | 378 | 141 | 103 | 36 | 248 | 62 |
| 8 | 56 | 148 | 140 | 378 | 1,300 | 1,000 | 942 | 144 | 333 | 35 | 96 | 36 |
| 9 | 23 | 156 | 183 | 359 | 937 | 757 | 1,800 | 133 | 120 | 36 | 78 | 35 |
| 10 | 68 | 141 | 118 | 256 | 1,130 | 642 | 2,020 | 133 | 165 | 78 | 989 | 26 |
| 11 | 56 | 119 | 110 | 269 | 846 | 531 | 1,410 | 159 | 324 | 57 | 2,050 | 36 |
| 12 | 52 | 108 | 108 | 262 | 728 | 531 | 1,130 | 141 | 540 | 265 | 531 | 44 |
| 13 | 44 | 827 | 100 | 243 | 642 | 531 | 876 | 112 | 620 | 76 | 231 | 285 |
| 14 | 44 | 202 | 100 | 227 | 586 | 1,810 | 699 | 133 | 420 | 59 | 173 | 187 |
| 15 | 38 | 194 | 108 | 194 | 504 | 3,690 | 586 | 282 | 316 | 42 | 146 | 113 |
| 16 | 30 | 227 | 1,500 | 182 | 408 | 2,520 | 504 | 239 | 248 | 40 | 131 | 70 |
| 17 | 26 | 223 | 3,520 | 227 | 369 | 1,780 | 427 | 198 | 190 | 36 | 100 | 45 |
| 18 | 33 | 210 | 4,870 | 239 | 478 | 1,130 | 452 | 210 | 161 | 369 | 180 | 50 |
| 19 | 47 | 188 | 2,480 | 218 | 642 | 937 | 1,050 | 568 | 142 | 450 | 78 | 36 |
| 20 | 108 | 186 | 1,270 | 194 | 1,340 | 757 | 699 | 1,440 | 113 | 190 | 38 | 42 |
| 21 | 78 | 178 | 876 | 302 | 1,000 | 642 | 586 | 1,940 | 100 | 135 | 54 | 45 |
| 22 | 81 | 148 | 699 | 1,450 | 816 | 531 | 1,300 | 93 | 364 | 47 | 50 | 50 |
| 23 | 227 | 126 | 642 | 937 | 670 | 504 | 452 | 905 | 110 | 186 | 50 | 54 |
| 24 | 256 | 112 | 504 | 786 | 356 | 427 | 373 | 1,450 | 81 | 127 | 50 | 64 |
| 25 | 163 | 108 | 478 | 1,200 | 102 | 369 | 340 | 905 | 64 | 76 | 50 | 45 |
| 26 | 133 | 210 | 487 | 937 | 424 | 359 | 295 | 540 | 73 | 240 | 40 | 38 |
| 27 | 202 | 340 | 378 | 642 | 427 | 345 | 269 | 465 | 127 | 157 | 20 | 35 |
| 28 | 3,190 | 378 | 350 | 531 | 350 | 277 | 243 | 376 | 157 | 107 | 38 | 35 |
| 29 | 4,320 | 478 | 322 | 504 | 286 | 340 | 273 | 81 | 113 | 36 | 36 | 36 |
| 30 | 2,680 | 349 | 286 | 452 | 252 | 260 | 235 | 76 | 113 | 36 | 36 | 33 |
| 31 | 1,520 | 330 | 670 | 642 | 642 | 198 | 198 | 198 | 50 | 38 | 38 | 38 |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October..... | 4,320 | 17 | 441 | 1.66 | 1.91 | | | | | | | |
| November..... | 546 | 105 | 226 | .853 | .95 | | | | | | | |
| December..... | 4,870 | 100 | 686 | 2.59 | 2.99 | | | | | | | |
| January..... | 1,450 | 182 | 517 | 1.95 | 2.25 | | | | | | | |
| February..... | 2,220 | 102 | 711 | 2.68 | 2.79 | | | | | | | |
| March..... | 3,690 | 252 | 897 | 3.38 | 3.90 | | | | | | | |
| April..... | 2,020 | 243 | 636 | 2.40 | 2.68 | | | | | | | |
| May..... | 1,940 | 112 | 442 | 1.67 | 1.92 | | | | | | | |
| June..... | 620 | 64 | 189 | .713 | .80 | | | | | | | |
| July..... | 450 | 35 | 123 | .464 | .53 | | | | | | | |
| August..... | 2,050 | 20 | 188 | .709 | .82 | | | | | | | |
| September..... | 283 | 11 | 55.2 | .208 | .23 | | | | | | | |
| The year..... | 4,870 | 11 | 425 | 1.60 | 21.77 | | | | | | | |

Monongahela River at Charleroi, Pa.

Location.— Water-stage recorder, lat. 40°08'30", long. 79°53'35", 1,100 feet above dam at Lock 4, at Charleroi, Washington County, half a mile below mouth of Maple Creek. Zero of gage is 735.33 feet above mean sea level (Corps of Engineers, U. S. Army benchmark).

Drainage area.— 5,213 square miles.

Records available.— March 1886 to March 1905, October 1933 to September 1938 in reports of U. S. Geological Survey; October 1933 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Extremes.— Maximum discharge during year, 127,000 second-feet Oct. 29 (gage height, 20.17 feet); minimum, 562 second-feet Oct. 1 (gage height, 2.37 feet). 1886-1905, 1933-38: Maximum discharge, about 156,000 second-feet July 11, 1888 (gage height, 42.0 feet on lower gage at old lock downstream, or about 28.1 feet on present gage); minimum not determined.

Remarks.— Records good except those below 5,000 second-feet which are poor. Regulation at low stages from operation of locks upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|---------|--------|--------|--------|---------|---------|--------|-----------------|--------|-------------------|-------|-------|
| 1 | 595 | 31,500 | 8,320 | 11,300 | 8,650 | 8,100 | 21,600 | 5,480 | 3,570 | 3,980 | 6,830 | 1,230 |
| 2 | 621 | 26,400 | 6,480 | 11,000 | 8,100 | 7,840 | 16,200 | 4,450 | 3,300 | 2,750 | 5,520 | 770 |
| 3 | 647 | 14,900 | 5,740 | 9,480 | 9,200 | 10,100 | 10,300 | 3,500 | 3,880 | 1,510 | 3,550 | 699 |
| 4 | 712 | 6,560 | 6,160 | 8,920 | 10,600 | 13,700 | 8,100 | 2,450 | 3,270 | 1,330 | 4,210 | 965 |
| 5 | 1,790 | 5,480 | 3,570 | 7,320 | 8,630 | 18,400 | 8,100 | 3,270 | 3,570 | 1,530 | 8,650 | 1,080 |
| 6 | 4,220 | 5,540 | 3,350 | 6,830 | 5,650 | 21,600 | 7,320 | 5,070 | 3,080 | 1,580 | 6,890 | 1,190 |
| 7 | 4,760 | 4,740 | 3,880 | 7,050 | 14,500 | 32,400 | 6,400 | 4,080 | 2,680 | 1,510 | 3,110 | 1,360 |
| 8 | 4,500 | 6,360 | 3,500 | 4,420 | 14,700 | 28,000 | 7,240 | 1,910 | 3,470 | 1,310 | 3,300 | 960 |
| 9 | 3,800 | 4,500 | 2,660 | 3,110 | 12,800 | 18,800 | 13,800 | 1,420 | 9,670 | 1,560 | 5,070 | 845 |
| 10 | 2,180 | 3,110 | 2,770 | 2,990 | 12,800 | 16,000 | 32,800 | 1,830 | 8,840 | 1,420 | 4,300 | 1,180 |
| 11 | 1,930 | 3,000 | 2,770 | 3,880 | 15,000 | 10,400 | 20,200 | 1,880 | 6,000 | 1,240 | 3,880 | 860 |
| 12 | 3,240 | 2,680 | 2,310 | 3,980 | 20,200 | 8,100 | 16,400 | 2,010 | 5,960 | 2,760 | 3,270 | 1,100 |
| 13 | 3,210 | 7,190 | 1,680 | 3,880 | 35,100 | 6,830 | 13,400 | 2,150 | 11,200 | 2,900 | 2,890 | 1,560 |
| 14 | 2,800 | 2,890 | 1,880 | 2,450 | 32,400 | 10,900 | 11,200 | 2,310 | 11,800 | 1,990 | 2,230 | 1,900 |
| 15 | 3,110 | 3,160 | 2,040 | 2,040 | 21,600 | 33,300 | 8,740 | 4,080 | 8,980 | 2,370 | 1,680 | 2,120 |
| 16 | 3,700 | 5,070 | 5,420 | 2,120 | 15,400 | 30,600 | 6,120 | 11,500 | 6,640 | 2,740 | 1,860 | 1,880 |
| 17 | 2,510 | 4,420 | 24,100 | 2,340 | 12,400 | 29,700 | 4,870 | 18,400 | 17,900 | 1,930 | 1,580 | 2,880 |
| 18 | 2,180 | 3,700 | 57,900 | 3,110 | 12,800 | 24,800 | 4,460 | 19,200 | 30,600 | 1,510 | 1,720 | 1,630 |
| 19 | 3,300 | 3,680 | 57,900 | 4,100 | 11,800 | 18,800 | 10,500 | 34,500 | 17,800 | 2,240 | 2,040 | 1,480 |
| 20 | 2,480 | 4,440 | 31,400 | 5,070 | 27,000 | 12,600 | 15,000 | 36,900 | 16,700 | 3,960 | 1,750 | 1,990 |
| 21 | 6,360 | 3,240 | 18,800 | 5,600 | 29,300 | 9,750 | 12,000 | 49,900 | 17,400 | 5,010 | 1,200 | 1,530 |
| 22 | 6,360 | 2,990 | 20,900 | 7,180 | 19,500 | 9,750 | 11,700 | 71,100 | 9,860 | 6,830 | 1,040 | 1,310 |
| 23 | 9,480 | 3,530 | 17,200 | 12,400 | 14,400 | 8,920 | 15,700 | 53,900 | 7,840 | 8,460 | 1,160 | 1,420 |
| 24 | 10,400 | 3,270 | 10,600 | 17,400 | 12,200 | 7,070 | 17,100 | 31,500 | 7,070 | 18,800 | 1,100 | 1,750 |
| 25 | 12,400 | 3,210 | 7,810 | 20,800 | 12,800 | 6,590 | 6,140 | 20,900 | 5,760 | 12,100 | 1,010 | 1,310 |
| 26 | 11,000 | 3,100 | 5,480 | 27,200 | 10,600 | 6,480 | 4,420 | 17,000 | 4,040 | 6,480 | 1,030 | 960 |
| 27 | 11,000 | 4,570 | 5,400 | 21,600 | 7,840 | 4,020 | 4,190 | 14,400 | 6,830 | 4,540 | 1,080 | 994 |
| 28 | 56,600 | 5,480 | 7,350 | 14,500 | 7,070 | 9,370 | 3,800 | 10,700 | 7,070 | 4,050 | 892 | 1,100 |
| 29 | 118,000 | 7,230 | 9,900 | 8,490 | 10,200 | 4,460 | 6,670 | 5,480 | 3,910 | 800 | 800 | 994 |
| 30 | 86,400 | 9,550 | 14,000 | 5,480 | 14,000 | 3,600 | 7,070 | 3,600 | 4,300 | 6,990 | 860 | 1,060 |
| 31 | 42,900 | | 14,700 | 6,000 | | 20,900 | | 2,990 | | 4,780 | 970 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October..... | | | | | 118,000 | 595 | 13,640 | 2.62 | | 3.02 | | |
| November..... | | | | | 31,500 | 2,580 | 6,513 | 1.25 | | 1.40 | | |
| December..... | | | | | 57,900 | 1,680 | 11,810 | 2.27 | | 2.62 | | |
| January..... | | | | | 27,200 | 2,040 | 8,130 | 1.56 | | 1.80 | | |
| February..... | | | | | 35,100 | 5,650 | 15,110 | 2.90 | | 3.02 | | |
| March..... | | | | | 33,300 | 4,020 | 15,100 | 2.90 | | 3.34 | | |
| April..... | | | | | 32,800 | 3,800 | 10,970 | 2.10 | | 2.34 | | |
| May..... | | | | | 71,100 | 1,420 | 14,490 | 2.78 | | 3.20 | | |
| June..... | | | | | 30,600 | 2,680 | 8,485 | 1.63 | | 1.82 | | |
| July..... | | | | | 18,800 | 1,240 | 4,002 | .768 | | .89 | | |
| August..... | | | | | 8,650 | 800 | 2,751 | .528 | | .61 | | |
| September..... | | | | | 2,880 | 699 | 1,336 | .256 | | .28 | | |
| The year..... | | | | | 118,000 | 595 | 9,341 | 1.79 | | 24.34 | | |

South Fork of Termile Creek at Jefferson, Pa.

Location.— Chain gage, lat. 39°55'25", long. 80°04'25", at highway bridge 1 mile southwest of Jefferson, Greene County, and 3½ miles below mouth of Ruff Creek. Zero of gage is 852.54 feet above mean sea level (general adjustment of 1907).
Drainage area.— 180 square miles.
Records available.— October 1931 to September 1938.
Extremes.— Maximum discharge during year, 5,450 second-feet Feb. 20 (gage height, 10.8 feet, from graph based on gage readings), from rating curve extended above 2,000 second-feet; minimum, about 0.05 second-foot Sept. 3 (gage height, 0.36 foot).

1931-38: Maximum discharge, 8,100 second-feet Nov. 4, 1936 (gage height, 13.8 feet, from graph based on gage readings), from rating curve extended above 2,000 second-feet; minimum, that of Sept. 3, 1938.
Remarks.— Records poor. Discharge for periods of ice effect, Nov. 25, Dec. 3, 4, 8-15, Jan. 10, 14-16, determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Slight regulation at low stages from pumpage at Waynesburg.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|---------|---------|-------|-----------------|-------------------|-------|-------|-------|------|------|------|-------|
| 1 | 1.2 | 174 | 106 | 515 | 212 | 134 | 212 | 57 | 55 | 50 | 1.0 | 0.3 |
| 2 | 1.3 | 131 | 84 | 445 | 238 | 157 | 148 | 54 | 51 | 55 | .9 | .3 |
| 3 | 1.4 | 95 | 74 | 278 | 225 | 186 | 131 | 49 | 67 | 57 | .9 | .1 |
| 4 | 2.0 | 74 | 68 | 212 | 251 | 150 | 111 | 42 | 56 | 38 | .9 | .2 |
| 5 | 2.2 | 61 | 63 | 174 | 199 | 222 | 96 | 38 | 44 | 22 | 7.6 | .1 |
| 6 | 3.5 | 58 | 82 | 134 | 245 | 1,490 | 86 | 27 | 49 | 14 | 4.6 | .1 |
| 7 | 3.5 | 47 | 71 | 155 | 1,630 | 515 | 134 | 30 | 40 | 9.2 | 2.5 | .1 |
| 8 | 2.7 | 43 | 65 | 129 | 625 | 365 | 535 | 28 | 58 | 7.0 | 2.4 | .2 |
| 9 | 2.9 | 47 | 53 | 100 | 428 | 251 | 1,650 | 24 | 46 | 12 | 2.3 | .2 |
| 10 | 2.9 | 38 | 45 | 90 | 550 | 238 | 1,190 | 30 | 31 | 14 | 2.2 | .2 |
| 11 | 3.7 | 33 | 36 | 88 | 480 | 251 | 625 | 35 | 63 | 10 | 3.4 | .2 |
| 12 | 4.9 | 34 | 30 | 98 | 515 | 225 | 380 | 32 | 334 | 77 | 2.3 | 9.2 |
| 13 | 13 | 93 | 26 | 104 | 705 | 308 | 278 | 28 | 212 | 14 | 1.8 | 47 |
| 14 | 17 | 96 | 24 | 90 | 480 | 1,030 | 212 | 40 | 134 | 6.1 | 1.6 | 15 |
| 15 | 21 | 87 | 25 | 80 | 320 | 1,630 | 174 | 189 | 68 | 4.0 | 1.2 | 7.3 |
| 16 | 14 | 95 | 242 | 70 | 238 | 1,690 | 146 | 121 | 55 | 3.5 | 1.0 | 5.0 |
| 17 | 8.1 | 98 | 1,270 | 84 | 212 | 1,760 | 113 | 100 | 470 | 3.0 | .9 | 3.9 |
| 18 | 7.6 | 90 | 3,290 | 101 | 199 | 732 | 136 | 226 | 212 | 3.0 | .8 | 2.9 |
| 19 | 9.8 | 82 | 1,110 | 82 | 408 | 445 | 251 | 395 | 136 | 14 | .8 | 2.2 |
| 20 | 24 | 100 | 515 | 74 | 2,740 | 335 | 136 | 395 | 106 | 10 | .8 | 1.9 |
| 21 | 28 | 90 | 306 | 80 | 965 | 251 | 131 | 306 | 75 | 6.4 | .8 | 1.6 |
| 22 | 26 | 81 | 251 | 264 | 515 | 212 | 148 | 518 | 58 | 3.8 | .8 | 1.5 |
| 23 | 301 | 71 | 251 | 251 | 428 | 186 | 104 | 336 | 49 | 2.6 | .8 | 1.8 |
| 24 | 199 | 60 | 186 | 206 | 350 | 199 | 92 | 1,280 | 452 | 2.2 | .8 | 1.9 |
| 25 | 106 | 64 | 264 | 2,810 | 264 | 148 | 87 | 692 | 200 | 2.2 | .8 | 1.7 |
| 26 | 67 | 74 | 152 | 850 | 225 | 140 | 75 | 350 | 127 | 2.1 | .8 | 1.4 |
| 27 | 127 | 86 | 132 | 480 | 212 | 118 | 68 | 225 | 199 | 1.7 | .8 | 1.2 |
| 28 | 2,090 | 100 | 225 | 320 | 186 | 101 | 61 | 142 | 174 | 1.4 | .8 | .9 |
| 29 | 1,280 | 186 | 212 | 225 | 93 | 66 | 104 | 120 | 120 | 1.2 | .8 | .7 |
| 30 | 445 | 146 | 186 | 225 | 100 | 63 | 82 | 67 | | 1.1 | 1.2 | .6 |
| 31 | 238 | 174 | 380 | 138 | | | 66 | | | 1.0 | .4 | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October..... | 2,090 | 1.2 | 163 | 0.906 | 1.04 | | | | | | | |
| November..... | 186 | 33 | 84.5 | .469 | .52 | | | | | | | |
| December..... | 3,290 | 24 | 310 | 1.72 | 1.98 | | | | | | | |
| January..... | 2,810 | 70 | 299 | 1.66 | 1.91 | | | | | | | |
| February..... | 2,740 | 186 | 498 | 2.77 | 2.88 | | | | | | | |
| March..... | 1,760 | 93 | 445 | 2.47 | 2.85 | | | | | | | |
| April..... | 1,650 | 61 | 255 | 1.42 | 1.58 | | | | | | | |
| May..... | 1,280 | 24 | 195 | 1.08 | 1.24 | | | | | | | |
| June..... | 470 | 31 | 126 | .700 | .78 | | | | | | | |
| July..... | 77 | 1.0 | 14.5 | .081 | .09 | | | | | | | |
| August..... | 7.6 | .4 | 1.57 | .0087 | .01 | | | | | | | |
| September..... | 47 | .1 | 3.65 | .020 | .02 | | | | | | | |
| The year..... | 3,290 | .1 | 198 | 1.10 | 14.90 | | | | | | | |

Youghiogheny River at Connellsville, Pa.

Location.— Water-stage recorder, lat. 40°01'05", long. 79°35'40", at Crawford Avenue Bridge, at Connellsville, Fayette County, three-quarters of a mile above mouth of Mounts Creek. Zero of gage is 860.13 feet above mean sea level (Baltimore & Ohio Railroad benchmark).

Drainage area.— 1,326 square miles.
Records available.— October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; July 1908 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 29 years (1908-18, 1919-38), 2,500 second-feet.
Extremes.— Maximum discharge during year, 44,800 second-feet Oct. 28 (gage height, 14.35 feet); minimum, 136 second-feet Sept. 5 (gage height, 0.76 foot); minimum daily discharge, 182 second-feet Sept. 5.

1908-38: Maximum discharge, 92,500 second-feet Mar. 18, 1936 (gage height, 20.28 feet), from rating curve extended above 40,000 second-feet; minimum, 11 second-feet Sept. 23, 26, 27, 1908, Oct. 18, 1910 (gage height, 0.11 foot).
Remarks.— Records good. Regulation from operation of hydroelectric plants and storage in Deep Creek Reservoir, the only large reservoir in the basin; no corrections made for evaporation. Record of storage furnished by Pennsylvania Electric Co.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|--------|----------|---------|-------|--------------------------------|--------|----------------------|-------------------|-------|-------|-------|-------|
| 1 | 290 | 4,390 | 2,240 | 3,610 | 2,320 | 1,820 | 4,490 | 1,500 | 1,370 | 610 | 941 | 304 |
| 2 | 270 | 3,340 | 1,820 | 4,490 | 1,890 | 2,320 | 3,340 | 1,120 | 1,350 | 583 | 1,120 | 347 |
| 3 | 348 | 2,640 | 1,690 | 3,430 | 2,030 | 3,160 | 2,810 | 1,200 | 1,400 | 616 | 1,040 | 371 |
| 4 | 348 | 2,240 | 1,510 | 2,720 | 2,170 | 3,800 | 2,480 | 1,090 | 1,510 | 543 | 902 | 299 |
| 5 | 420 | 1,820 | 1,640 | 2,320 | 2,170 | 3,430 | 2,370 | 1,060 | 1,160 | 446 | 1,280 | 162 |
| 6 | 1,210 | 1,740 | 1,540 | 1,960 | 2,240 | 8,220 | 1,820 | 1,040 | 1,010 | 442 | 1,090 | 254 |
| 7 | 1,360 | 1,430 | 1,340 | 1,890 | 6,310 | 7,400 | 1,820 | 924 | 1,150 | 530 | 920 | 285 |
| 8 | 936 | 1,250 | 1,050 | 1,990 | 5,200 | 5,100 | 1,950 | 808 | 1,290 | 461 | 673 | 515 |
| 9 | 752 | 1,200 | 1,170 | 1,270 | 3,900 | 3,900 | 4,190 | 709 | 1,260 | 498 | 1,090 | 522 |
| 10 | 638 | 1,350 | 1,060 | 1,030 | 6,070 | 3,250 | 5,940 | 942 | 994 | 602 | 1,190 | 408 |
| 11 | 915 | 1,250 | 1,030 | 1,530 | 5,730 | 2,810 | 5,000 | 1,030 | 1,250 | 492 | 889 | 372 |
| 12 | 1,070 | 1,090 | 840 | 1,420 | 4,590 | 2,560 | 5,000 | 915 | 3,760 | 3,030 | 935 | 304 |
| 13 | 981 | 1,320 | 777 | 1,290 | 7,480 | 2,900 | 4,190 | 870 | 4,260 | 2,460 | 908 | 936 |
| 14 | 858 | 1,490 | 817 | 1,020 | 7,270 | 5,820 | 3,340 | 784 | 2,780 | 1,320 | 616 | 840 |
| 15 | 718 | 1,270 | 1,030 | 1,070 | 5,520 | 17,000 | 2,810 | 2,610 | 1,960 | 1,250 | 484 | 798 |
| 16 | 724 | 1,300 | 3,590 | 924 | 4,090 | 10,700 | 2,320 | 5,100 | 1,870 | 1,610 | 506 | 632 |
| 17 | 547 | 1,300 | 10,700 | 1,070 | 3,340 | 8,430 | 2,030 | 3,920 | 2,560 | 1,080 | 434 | 656 |
| 18 | 490 | 1,140 | 14,500 | 1,470 | 2,900 | 6,820 | 2,010 | 4,260 | 2,520 | 771 | 608 | 624 |
| 19 | 669 | 1,040 | 12,300 | 1,470 | 2,900 | 5,310 | 4,540 | 8,670 | 2,030 | 1,060 | 581 | 470 |
| 20 | 918 | 1,050 | 7,500 | 1,340 | 3,520 | 4,490 | 4,190 | 10,200 | 1,760 | 1,040 | 556 | 472 |
| 21 | 1,130 | 985 | 5,200 | 1,420 | 4,000 | 3,800 | 3,430 | 9,400 | 1,680 | 1,060 | 390 | 444 |
| 22 | 993 | 812 | 4,000 | 4,770 | 3,340 | 3,250 | 2,980 | 12,400 | 1,410 | 1,500 | 290 | 430 |
| 23 | 1,750 | 1,080 | 3,340 | 4,910 | 3,160 | 2,810 | 2,560 | 8,930 | 1,310 | 2,030 | 369 | 536 |
| 24 | 2,320 | 971 | 2,980 | 3,800 | 3,070 | 2,810 | 2,100 | 6,380 | 1,110 | 9,580 | 340 | 568 |
| 25 | 1,740 | 868 | 2,480 | 4,460 | 2,810 | 2,720 | 1,820 | 4,690 | 907 | 4,400 | 376 | 588 |
| 26 | 1,440 | 1,110 | 2,170 | 5,200 | 2,560 | 2,400 | 1,760 | 3,520 | 960 | 2,440 | 310 | 396 |
| 27 | 1,990 | 2,050 | 1,890 | 3,430 | 2,480 | 2,320 | 1,640 | 2,980 | 1,020 | 2,160 | 352 | 385 |
| 28 | 20,800 | 2,810 | 1,820 | 2,810 | 2,240 | 2,100 | 1,380 | 2,480 | 1,060 | 1,930 | 374 | 379 |
| 29 | 30,800 | 2,980 | 2,240 | 2,320 | | 2,170 | 1,450 | 1,960 | 941 | 1,350 | 374 | 334 |
| 30 | 11,900 | 2,810 | 2,400 | 2,240 | | 2,320 | 1,600 | 1,620 | 724 | 1,230 | 256 | 323 |
| 31 | 6,540 | | 2,480 | 2,560 | | 3,680 | | 1,420 | | 1,120 | 328 | |
| Month | | Observed | | | Gain or Loss in Storage (Mean) | | Adjusted for storage | | | | | |
| | | Maximum | Minimum | Mean | | Mean | Per square mile | Run-off in inches | | | | |
| October..... | | 30,800 | 270 | 3,092 | +60.5 | | 3,152 | 2.38 | 2.74 | | | |
| November..... | | 4,390 | 812 | 1,671 | -25.1 | | 1,646 | 1.24 | 1.38 | | | |
| December..... | | 14,500 | 777 | 3,198 | -4.86 | | 3,193 | 2.41 | 2.78 | | | |
| January..... | | 5,200 | 924 | 2,424 | -31.4 | | 2,393 | 1.80 | 2.08 | | | |
| February..... | | 7,480 | 1,890 | 3,761 | +121 | | 3,882 | 2.93 | 3.05 | | | |
| March..... | | 17,000 | 1,820 | 4,504 | +89.6 | | 4,594 | 3.46 | 3.99 | | | |
| April..... | | 5,940 | 1,380 | 2,912 | +16.2 | | 2,928 | 2.21 | 2.47 | | | |
| May..... | | 12,400 | 709 | 3,364 | +134 | | 3,498 | 2.64 | 3.04 | | | |
| June..... | | 4,260 | 724 | 1,606 | -112 | | 1,494 | 1.13 | 1.26 | | | |
| July..... | | 9,580 | 442 | 1,556 | -86.3 | | 1,470 | 1.11 | 1.28 | | | |
| August..... | | 1,280 | 256 | 659 | -216 | | 444 | .335 | .39 | | | |
| September..... | | 936 | 162 | 465 | -203 | | 262 | .198 | .22 | | | |
| The year..... | | 30,800 | 162 | 2,432 | -21.9 | | 2,410 | 1.82 | 24.68 | | | |

Casselman River at Markleton, Pa.

Location.— Chain gage, lat. $39^{\circ}51'35''$, long. $79^{\circ}13'40''$, at highway bridge at Markleton, Somerset County, 2 miles southwest of Casselman and 7 miles below mouth of Coxes Creek. Zero of gage is 1,655.29 feet above mean sea level (general adjustment of 1907).

Drainage area.— 382 square miles.

Records available.— August to September 1913, October 1920 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; August 1913 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 18 years (1920-38), 618 second-feet.

Extremes.— Maximum discharge during year, 16,200 second-feet Oct. 28 (gage height, 10.0 feet, from graph based on gage readings); minimum, 18 second-feet Aug. 28 (gage height, 1.38 feet).

1913-38: Maximum discharge, 35,800 second-feet Mar. 17, 1938 (gage height, 16.4 feet, from floodmark), from rating curve extended on basis of slope-area determination; minimum, 11 second-feet Aug. 13, 1930, July 23, 1936.

Remarks.— Records fair except those for periods of ice effect, Nov. 22-27, Dec. 1-16, Jan. 11-21, which are poor and were determined from gage heights, weather records, two discharge measurements, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|---------|-------|-----------------|-------------------|-------|-------|-------|------|-------|------|-------|
| 1 | 40 | 1,100 | 470 | 1,200 | 445 | 360 | 920 | 305 | 325 | 111 | 178 | 30 |
| 2 | 36 | 920 | 360 | 1,010 | 415 | 475 | 718 | 264 | 310 | 124 | 171 | 30 |
| 3 | 39 | 795 | 290 | 755 | 445 | 718 | 645 | 242 | 415 | 117 | 130 | 43 |
| 4 | 54 | 645 | 260 | 645 | 540 | 610 | 575 | 225 | 301 | 103 | 106 | 29 |
| 5 | 239 | 575 | 320 | 508 | 475 | 618 | 508 | 221 | 292 | 74 | 103 | 24 |
| 6 | 648 | 508 | 280 | 475 | 516 | 1,660 | 445 | 234 | 320 | 64 | 86 | 22 |
| 7 | 325 | 475 | 220 | 575 | 1,770 | 1,010 | 415 | 205 | 242 | 60 | 72 | 21 |
| 8 | 247 | 475 | 210 | 475 | 878 | 795 | 540 | 182 | 287 | 54 | 64 | 33 |
| 9 | 186 | 388 | 200 | 273 | 795 | 680 | 948 | 182 | 247 | 76 | 64 | 43 |
| 10 | 273 | 345 | 190 | 251 | 1,660 | 645 | 1,200 | 190 | 198 | 86 | 106 | 40 |
| 11 | 415 | 320 | 180 | 270 | 1,150 | 575 | 1,010 | 225 | 269 | 69 | 302 | 33 |
| 12 | 296 | 292 | 170 | 300 | 965 | 645 | 965 | 221 | 645 | 792 | 97 | 45 |
| 13 | 242 | 585 | 160 | 260 | 2,270 | 795 | 795 | 190 | 575 | 430 | 69 | 72 |
| 14 | 213 | 575 | 160 | 230 | 1,920 | 2,400 | 718 | 210 | 355 | 194 | 56 | 120 |
| 15 | 178 | 475 | 170 | 210 | 1,310 | 6,220 | 645 | 884 | 260 | 292 | 47 | 89 |
| 16 | 157 | 445 | 1,500 | 210 | 965 | 2,990 | 540 | 965 | 238 | 296 | 45 | 62 |
| 17 | 140 | 388 | 3,340 | 230 | 795 | 2,200 | 508 | 575 | 388 | 153 | 42 | 54 |
| 18 | 124 | 360 | 4,520 | 240 | 795 | 1,660 | 508 | 736 | 296 | 120 | 49 | 43 |
| 19 | 202 | 330 | 2,760 | 210 | 755 | 1,260 | 1,100 | 1,790 | 264 | 111 | 124 | 42 |
| 20 | 388 | 335 | 1,540 | 200 | 1,010 | 1,060 | 755 | 2,660 | 205 | 108 | 62 | 42 |
| 21 | 415 | 296 | 1,100 | 250 | 795 | 878 | 610 | 2,200 | 182 | 140 | 45 | 40 |
| 22 | 296 | 260 | 920 | 1,100 | 680 | 755 | 575 | 2,990 | 164 | 258 | 39 | 36 |
| 23 | 680 | 240 | 795 | 920 | 645 | 680 | 508 | 1,660 | 160 | 1,030 | 35 | 51 |
| 24 | 645 | 230 | 680 | 718 | 610 | 755 | 445 | 1,360 | 157 | 1,330 | 30 | 54 |
| 25 | 475 | 230 | 645 | 1,610 | 575 | 645 | 415 | 965 | 133 | 596 | 28 | 45 |
| 26 | 388 | 300 | 575 | 1,120 | 540 | 645 | 360 | 795 | 209 | 350 | 26 | 35 |
| 27 | 620 | 600 | 475 | 718 | 575 | 575 | 335 | 755 | 221 | 445 | 24 | 29 |
| 28 | 10,300 | 645 | 508 | 645 | 388 | 475 | 310 | 610 | 217 | 301 | 18 | 27 |
| 29 | 8,890 | 718 | 610 | 540 | 445 | 350 | 508 | 171 | 260 | 20 | 20 | 25 |
| 30 | 2,830 | 610 | 540 | 610 | 576 | 360 | 415 | 124 | 251 | 22 | 22 | 26 |
| 31 | 1,600 | 575 | 680 | 1,260 | 388 | 209 | 22 | | | | | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October | 10,300 | 36 | 1,019 | 2.67 | 3.08 | | | | | | | |
| November | 1,100 | 230 | 480 | 1.26 | 1.41 | | | | | | | |
| December | 4,520 | 160 | 798 | 2.09 | 2.41 | | | | | | | |
| January | 1,610 | 200 | 563 | 1.47 | 1.70 | | | | | | | |
| February | 2,270 | 388 | 882 | 2.31 | 2.40 | | | | | | | |
| March | 6,220 | 360 | 1,131 | 2.96 | 3.41 | | | | | | | |
| April | 1,200 | 310 | 624 | 1.63 | 1.82 | | | | | | | |
| May | 2,660 | 182 | 753 | 1.97 | 2.27 | | | | | | | |
| June | 645 | 124 | 272 | .712 | .79 | | | | | | | |
| July | 1,330 | 54 | 278 | .728 | .84 | | | | | | | |
| August | 202 | 18 | 70.4 | .184 | .21 | | | | | | | |
| September | 120 | 21 | 42.8 | .112 | .12 | | | | | | | |
| The year | 10,300 | 18 | 576 | 1.51 | 20.46 | | | | | | | |

Big Piney Run near Salisbury, Pa.

Location.— Water-stage recorder, lat. $39^{\circ}43'32''$, long. $79^{\circ}02'57''$, an eighth of a mile above Little Piney Run, a quarter of a mile north of Maryland-Pennsylvania State line, and 2½ miles southeast of Salisbury, Somerset County.

Drainage area.— 24.5 square miles.

Records available.— June 1932 to September 1938.

Extremes.— Maximum discharge during year, 1,860 second-feet Oct. 28 (gage height, 6.04 feet), from rating curve extended above 321 second-feet; minimum, 0.3 second-foot Aug. 30, 31 (gage height, 1.11 feet).

1932-38: Maximum discharge, about 4,300 second-feet Apr. 26, 1937 (gage height, 7.6 feet), from rating curve extended on basis of slope-area determination; no flow Aug. 13-18, 20, 1937, owing to temporary storage of water during construction operations upstream.

Remarks.— Records excellent except those below 5 and above 400 second-feet, those for periods of ice effect, Nov. 22, 23, Dec. 8-14, Jan. 17, 18, 26-28, Feb. 1, and those for periods of backwater from debris on control, Nov. 8-10, Aug. 9-31, which are fair. Discharge for periods of ice and backwater effect computed from gage heights, weather records, and records for stations on nearby streams. Water supply for cities of Frostburg and Salisbury diverted above station not included in records except in last three columns of monthly table. Records furnished by U. S. Geological Survey, Washington, D. C.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1 | 1.2 | 77 | 28 | 44 | 25 | 21 | 64 | 13 | 17 | 2.9 | 15 | 3.7 |
| 2 | 1.2 | 59 | 27 | 44 | 20 | 25 | 56 | 11 | 16 | 3.3 | 12 | 1.3 |
| 3 | 1.5 | 47 | 23 | 40 | 20 | 32 | 48 | 9.4 | 19 | 2.9 | 8.7 | .8 |
| 4 | 17 | 37 | 20 | 38 | 22 | 25 | 40 | 9.0 | 13 | 2.0 | 7.1 | .7 |
| 5 | 63 | 32 | 22 | 32 | 20 | 34 | 33 | 9.4 | 13 | 1.4 | 6.5 | .6 |
| 6 | 58 | 27 | 21 | 30 | 21 | 52 | 28 | 8.0 | 10 | 1.1 | 5.4 | .5 |
| 7 | 44 | 23 | 17 | 31 | 45 | 42 | 25 | 6.8 | 9.4 | 1.0 | 4.3 | .6 |
| 8 | 27 | 20 | 17 | 22 | 30 | 42 | 28 | 6.8 | 13 | 1.1 | 3.9 | 3.8 |
| 9 | 24 | 17 | 13 | 17 | 32 | 38 | 52 | 7.4 | 8.4 | 1.3 | 3.7 | 1.3 |
| 10 | 42 | 15 | 11 | 18 | 56 | 36 | 55 | 6.8 | 7.1 | 1.1 | 3.3 | .8 |
| 11 | 35 | 13 | 10 | 18 | 47 | 32 | 56 | 9.4 | 10 | 1.5 | 3.5 | 1.1 |
| 12 | 29 | 14 | 9.5 | 17 | 52 | 37 | 58 | 7.4 | 14 | 83 | 3.1 | 1.8 |
| 13 | 24 | 65 | 10 | 15 | 122 | 43 | 53 | 6.3 | 11 | 20 | 2.3 | 5.1 |
| 14 | 20 | 42 | 10 | 15 | 126 | 98 | 45 | 24 | 7.7 | 11 | 1.8 | 3.5 |
| 15 | 16 | 38 | 10 | 13 | 95 | 231 | 38 | 57 | 6.3 | 19 | 1.5 | 3.5 |
| 16 | 14 | 34 | 48 | 12 | 70 | 159 | 33 | 48 | 9.8 | 9.0 | 1.3 | 1.9 |
| 17 | 12 | 30 | 111 | 13 | 57 | 126 | 28 | 39 | 12 | 6.3 | 3.5 | 1.6 |
| 18 | 11 | 25 | 211 | 12 | 52 | 106 | 37 | 73 | 7.7 | 5.4 | 16 | 2.0 |
| 19 | 30 | 22 | 151 | 10 | 48 | 85 | 47 | 103 | 6.3 | 6.5 | 3.9 | 1.8 |
| 20 | 37 | 21 | 101 | 10 | 56 | 72 | 35 | 115 | 4.9 | 4.9 | 2.3 | 1.6 |
| 21 | 35 | 18 | 77 | 11 | 41 | 59 | 33 | 126 | 4.6 | 12 | 1.6 | 1.6 |
| 22 | 33 | 15 | 61 | 28 | 38 | 48 | 32 | 71 | 3.9 | 14 | 1.3 | 1.4 |
| 23 | 52 | 14 | 49 | 25 | 39 | 41 | 27 | 110 | 4.3 | 188 | .9 | 1.9 |
| 24 | 44 | 13 | 38 | 27 | 36 | 40 | 24 | 90 | 3.7 | 114 | .8 | 1.9 |
| 25 | 38 | 13 | 36 | 86 | 32 | 32 | 21 | 65 | 2.9 | 63 | .6 | 1.1 |
| 26 | 33 | 16 | 30 | 60 | 30 | 32 | 18 | 56 | 2.5 | 77 | .6 | .8 |
| 27 | 104 | 21 | 25 | 50 | 29 | 26 | 16 | 49 | 7.7 | 59 | .6 | .7 |
| 28 | 1,300 | 30 | 27 | 40 | 22 | 22 | 14 | 37 | 8.5 | 38 | .5 | .6 |
| 29 | 430 | 34 | 27 | 40 | | 21 | 16 | 30 | 4.9 | 27 | .5 | .6 |
| 30 | 180 | 31 | 28 | 35 | | 45 | 15 | 25 | 3.1 | 23 | .3 | .5 |
| 31 | 110 | | 35 | 34 | | 76 | | 21 | | 17 | .6 | |

| Month | Observed | | | Diversions (Mean) | Adjusted for diversions | | |
|----------------|----------|---------|------|----------------------|-------------------------|--------------------|----------------------|
| | Maximum | Minimum | Mean | | Mean | Per square mile | Run-off in inches |
| October..... | 1,300 | 1.2 | 92.4 | 0.32 | 92.7 | 3.78 | 4.36 |
| November..... | 77 | 13 | 28.8 | .22 | 29.0 | 1.18 | 1.32 |
| December..... | 211 | 9.5 | 42.0 | .38 | 42.4 | 1.73 | 1.99 |
| January..... | 86 | 10 | 28.6 | .45 | 29.0 | 1.18 | 1.36 |
| February..... | 126 | 20 | 45.8 | .43 | 46.2 | 1.89 | 1.97 |
| March..... | 231 | 21 | 57.4 | .15 | 57.6 | 2.35 | 2.71 |
| April..... | 64 | 14 | 35.8 | .20 | 36.0 | 1.47 | 1.64 |
| May..... | 126 | 6.3 | 40.3 | .38 | 40.7 | 1.66 | 1.91 |
| June..... | 19 | 2.5 | 8.72 | .64 | 9.36 | .382 | .43 |
| July..... | 188 | 1.0 | 26.3 | .71 | 27.0 | 1.10 | 1.27 |
| August..... | 16 | .3 | 3.79 | .92 | 4.71 | .192 | .22 |
| September..... | 5.1 | .5 | 1.64 | .70 | 2.34 | .096 | .11 |
| The year..... | 1,300 | .3 | 34.4 | .46 | 34.9 | 1.42 | 19.29 |

Laurel Hill Creek at Ursina, Pa.

Records available.- August to September 1913, October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; August 1913 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 22 years (1916-38), 277 second-feet.
Extremes.- Maximum discharge during year, 5,230 second-feet Oct. 28 (gage height, 10.00 feet) (based on gage readings) from rating curve extended on

7.6 feet, from graph based on gage readings), from rating curve extended on basis of slope-area determination; minimum, 11 second-feet Sept. '30 (gage height, 1.69 feet). Maximum, 10.300 second-feet Mar. 17, 1938 (gage

1913-38: Maximum discharge, 10,300 second-feet Mar. 17, 1936 (gage height, 10.28 feet, from floodmark), from rating curve extended on basis of slope-area determination; no flow Aug. 22, 1917, Feb. 15, 1919; minimum daily discharge observed, 1 second-foot Aug. 22, Sept. 1, 1917.

Remarks.—Records fair except those for periods of ice effect, Nov. 20-27, Dec. 4-16, Jan. 10-21, Feb. 1, 2, Mar. 1, which are poor and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|-------|------|-------|------|---------|---------|------|-----------------|-------|-------------------|------|-------|
| 1 | 15 | 408 | 259 | 602 | 210 | 150 | 377 | 109 | 96 | 58 | 62 | 20 |
| 2 | 16 | 346 | 219 | 800 | 200 | 224 | 278 | 105 | 96 | 84 | 70 | 21 |
| 3 | 17 | 268 | 155 | 462 | 207 | 351 | 219 | 95 | 99 | 72 | 50 | 19 |
| 4 | 24 | 199 | 130 | 336 | 287 | 246 | 215 | 84 | 78 | 48 | 48 | 18 |
| 5 | 60 | 170 | 140 | 278 | 233 | 299 | 182 | 81 | 99 | 40 | 136 | 18 |
| 6 | 119 | 155 | 130 | 250 | 235 | 1,290 | 170 | 78 | 75 | 55 | 55 | 17 |
| 7 | 51 | 122 | 110 | 228 | 1,080 | 795 | 151 | 65 | 67 | 34 | 78 | 17 |
| 8 | 32 | 112 | 95 | 190 | 667 | 490 | 237 | 55 | 250 | 28 | 50 | 20 |
| 9 | 25 | 116 | 85 | 105 | 570 | 278 | 606 | 62 | 112 | 48 | 45 | 26 |
| 10 | 84 | 109 | 76 | 120 | 1,200 | 326 | 667 | 67 | 72 | 48 | 40 | 20 |
| 11 | 87 | 87 | 70 | 130 | 762 | 268 | 547 | 102 | 112 | 61 | 67 | 22 |
| 12 | 60 | 81 | 65 | 130 | 518 | 255 | 667 | 67 | 1,290 | 1,150 | 48 | 23 |
| 13 | 51 | 102 | 62 | 110 | 730 | 336 | 490 | 42 | 526 | 318 | 35 | 60 |
| 14 | 60 | 102 | 60 | 95 | 576 | 864 | 377 | 84 | 259 | 133 | 32 | 58 |
| 15 | 51 | 109 | 65 | 90 | 419 | 2,070 | 311 | 484 | 211 | 116 | 29 | 32 |
| 16 | 43 | 109 | 600 | 95 | 336 | 1,330 | 219 | 490 | 190 | 78 | 29 | 29 |
| 17 | 45 | 102 | 1,670 | 105 | 273 | 1,100 | 194 | 306 | 174 | 65 | 29 | 25 |
| 18 | 37 | 75 | 1,950 | 110 | 255 | 762 | 228 | 682 | 140 | 53 | 27 | 25 |
| 19 | 71 | 90 | 1,220 | 90 | 268 | 518 | 630 | 812 | 116 | 67 | 32 | 23 |
| 20 | 103 | 84 | 667 | 70 | 413 | 419 | 377 | 1,330 | 112 | 58 | 28 | 22 |
| 21 | 93 | 78 | 518 | 80 | 331 | 341 | 435 | 1,330 | 96 | 68 | 23 | 22 |
| 22 | 68 | 74 | 377 | 678 | 278 | 268 | 341 | 1,260 | 87 | 334 | 23 | 20 |
| 23 | 295 | 72 | 278 | 576 | 282 | 233 | 287 | 795 | 72 | 692 | 20 | 38 |
| 24 | 283 | 70 | 255 | 490 | 259 | 268 | 237 | 636 | 65 | 930 | 21 | 38 |
| 25 | 186 | 70 | 233 | 667 | 250 | 207 | 207 | 408 | 55 | 182 | 17 | 27 |
| 26 | 178 | 85 | 203 | 547 | 224 | 224 | 186 | 278 | 99 | 129 | 16 | 20 |
| 27 | 290 | 300 | 192 | 367 | 194 | 190 | 151 | 241 | 140 | 155 | 18 | 19 |
| 28 | 3,020 | 387 | 211 | 311 | 144 | 170 | 140 | 211 | 144 | 119 | 17 | 19 |
| 29 | 3,220 | 419 | 241 | 287 | | 151 | 170 | 155 | 90 | 93 | 16 | 13 |
| 30 | 1,160 | 336 | 211 | 264 | | 174 | 147 | 129 | 60 | 99 | 16 | 12 |
| 31 | 606 | | 211 | 336 | | 311 | | 105 | | 62 | 18 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | | Run-off in inches | | |
| October | | | | | 3,220 | 15 | 337 | 2.79 | | 3.22 | | |
| November | | | | | 419 | 70 | 161 | 1.33 | | 1.48 | | |
| December | | | | | 1,950 | 60 | 347 | 2.87 | | 3.31 | | |
| January | | | | | 800 | 70 | 291 | 2.40 | | 2.77 | | |
| February | | | | | 1,200 | 144 | 407 | 3.36 | | 3.50 | | |
| March | | | | | 2,070 | 150 | 481 | 3.98 | | 4.69 | | |
| April | | | | | 667 | 140 | 315 | 2.60 | | 2.90 | | |
| May | | | | | 1,330 | 42 | 347 | 2.87 | | 3.31 | | |
| June | | | | | 1,290 | 55 | 169 | 1.40 | | 1.86 | | |
| July | | | | | 1,150 | 88 | 175 | 1.45 | | 1.67 | | |
| August | | | | | 136 | 16 | 38.5 | .318 | | .37 | | |
| September | | | | | 60 | 12 | 24.8 | .205 | | .23 | | |
| The year | | | | | 3,220 | 12 | 258 | 2.13 | | 28.91 | | |

Turtle Creek at Trafford, Pa.

Location.- Chain gage, lat. 40°23'20", long. 79°45'05", at highway bridge at Blackburn railroad station, half a mile northeast of Trafford, Westmoreland County, 1½ miles above mouth of Brush Creek, and 7 miles above confluence with Monongahela River. Zero of gage is 780.27 feet above mean sea level (general adjustment of 1907).

Records available.- October 1920 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; July 1914 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 18 years (1920-38), 80.3 second-feet.
Extremes.- Maximum discharge during year, 2,010 second-feet Dec. 17 (gage height, 10.0 feet); minimum discharge during year, 1.0 second-feet (gage height, 1.0 foot).
Remarks.- Maximum discharge (2,010 second-feet) from rating curve extended above gage readings.

4.5 feet, from graph based on gage readings), from rating curve extended above
500 second-feet; minimum, 0.4 second-foot Aug. 30, Sept. 3-6.
1914-38: Maximum discharge, 4,420 second-feet Mar. 15, 1933 (gage height,
10.0 feet), from rating curve extended above

1914-38: Maximum discharge, 4,420 second-foot Mar. 15, 1938 (gage notes),
8.5 feet, from graph based on gage readings), from rating curve extended above
500 second-foot: minimum, 0.1 second-foot Oct. 6, 7, 1922.

Remarks.— Records fair except those above 700 second-feet, which are poor. Discharge interpolated for day of missing gage record, Nov. 6. Discharge for periods of ice effect, Nov. 21-26, Dec. 2-16, Jan. 9-22, 28-30, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | |
|----------------|------|------|-------|---------|------|---------|------|-------|------|-----------------|------|-------------------|--|
| 1 | 5.7 | 42 | 32 | 161 | 67 | 76 | 88 | 30 | 30 | 53 | 3.9 | 0.5 | |
| 2 | 5.7 | 35 | 26 | 132 | 78 | 66 | 74 | 26 | 32 | 55 | 4.8 | .5 | |
| 3 | 2.0 | 29 | 21 | 95 | 76 | 75 | 60 | 25 | 31 | 32 | 2.2 | .4 | |
| 4 | 2.5 | 23 | 19 | 76 | 74 | 58 | 53 | 23 | 25 | 26 | 1.1 | .4 | |
| 5 | 19 | 20 | 23 | 58 | 69 | 94 | 48 | 21 | 32 | 21 | 3.9 | .4 | |
| 6 | 7.3 | 20 | 19 | 55 | 81 | 242 | 52 | 21 | 21 | 18 | 2.2 | .4 | |
| 7 | 4.8 | 19 | 15 | 70 | 234 | 145 | 120 | 19 | 19 | 14 | 31 | 8.8 | |
| 8 | 2.9 | 17 | 13 | 54 | 165 | 110 | 570 | 17 | 16 | 16 | 5.7 | 4.9 | |
| 9 | 2.2 | 15 | 12 | 40 | 138 | 90 | 582 | 18 | 14 | 38 | 4.8 | .5 | |
| 10 | 10 | 14 | 11 | 43 | 134 | 85 | 592 | 16 | 24 | 21 | 110 | .5 | |
| 11 | 5.3 | 12 | 10 | 38 | 108 | 69 | 590 | 18 | 95 | 14 | 46 | .5 | |
| 12 | 3.9 | 16 | 10 | 34 | 97 | 78 | 179 | 14 | 103 | 51 | 21 | 12 | |
| 13 | 3.9 | 160 | 9 | 31 | 86 | 115 | 121 | 13 | 45 | 23 | 10 | 36 | |
| 14 | 2.9 | 43 | 9 | 29 | 90 | 613 | 93 | 20 | 32 | 18 | 6.2 | 5.7 | |
| 15 | 2.9 | 35 | 10 | 27 | 70 | 465 | 79 | 31 | 25 | 15 | 4.8 | 19 | |
| 16 | 2.5 | 31 | 80 | 25 | 57 | 331 | 69 | 19 | 31 | 10 | 5.7 | 6.2 | |
| 17 | 3.6 | 33 | 1,800 | 27 | 59 | 413 | 60 | 13 | 25 | 11 | 6.8 | 1.8 | |
| 18 | 3.6 | 31 | 1,450 | 25 | 60 | 240 | 63 | 59 | 18 | 16 | 7.3 | 1.6 | |
| 19 | 18 | 32 | 331 | 24 | 95 | 160 | 66 | 121 | 16 | 15 | 3.6 | 1.6 | |
| 20 | 12 | 32 | 180 | 23 | 815 | 136 | 55 | 110 | 14 | 12 | 1.8 | 3.2 | |
| 21 | 7.3 | 27 | 129 | 25 | 344 | 104 | 51 | 160 | 12 | 9.7 | 1.6 | 2.2 | |
| 22 | 17 | 23 | 106 | 40 | 202 | 86 | 55 | 150 | 10 | 6.8 | 1.2 | 6.8 | |
| 23 | 61 | 21 | 90 | 79 | 183 | 85 | 45 | 125 | 87 | 5.7 | 1.1 | 10 | |
| 24 | 31 | 19 | 76 | 100 | 145 | 73 | 42 | 477 | 32 | 6.2 | 1.2 | 3.6 | |
| 25 | 20 | 19 | 76 | 578 | 114 | 67 | 37 | 225 | 22 | 3.6 | .8 | 2.0 | |
| 26 | 18 | 21 | 62 | 190 | 102 | 66 | 36 | 125 | 56 | 7.3 | .5 | 1.4 | |
| 27 | 34 | 37 | 49 | 132 | 97 | 53 | 32 | 85 | 198 | 3.9 | .6 | 1.6 | |
| 28 | 339 | 43 | 62 | 100 | 66 | 51 | 31 | 63 | 76 | 4.4 | .7 | 1.1 | |
| 29 | 250 | 45 | 55 | 90 | 52 | 52 | 35 | 52 | 53 | 5.3 | .5 | .8 | |
| 30 | 95 | 35 | 55 | 80 | 51 | 32 | 39 | 39 | 39 | 3.9 | .4 | .6 | |
| 31 | 58 | | 55 | 97 | 97 | | 32 | 32 | | 5.3 | .5 | | |
| Month | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October..... | | | | 339 | | 2.0 | | 33.9 | | 0.619 | | 0.71 | |
| November..... | | | | 160 | | 12 | | 31.6 | | .577 | | .64 | |
| December..... | | | | 1,800 | | 9 | | 158.5 | | 2.88 | | 3.32 | |
| January..... | | | | 578 | | 23 | | 85.2 | | 1.52 | | 1.75 | |
| February..... | | | | 815 | | 57 | | 139 | | 2.54 | | 2.64 | |
| March..... | | | | 613 | | 51 | | 143 | | 2.61 | | 3.01 | |
| April..... | | | | 590 | | 31 | | 127 | | 2.32 | | 2.59 | |
| May..... | | | | 477 | | 13 | | 69.5 | | 1.26 | | 1.45 | |
| June..... | | | | 198 | | 10 | | 40.0 | | .730 | | .81 | |
| July..... | | | | 55 | | 3.9 | | 17.5 | | .319 | | .37 | |
| August..... | | | | 110 | | .4 | | 9.42 | | .172 | | .20 | |
| September..... | | | | 36 | | .4 | | 4.50 | | .082 | | .09 | |
| The year..... | | | | 1,800 | | .4 | | 71.1 | | 1.30 | | 17.58 | |

Beaver River at Wampum, Pa.

Location.- Staff gage, lat. 40°53'15", long. 80°20'05", at highway bridge at Wampum, Lawrence County. Zero of gage is 736.24 feet above mean sea level (Pennsylvania Railroad benchmark).

Drainage area.- 2,235 square miles.

Records available.- June to September 1914, August 1932 to September 1938.

Extremes.- Maximum discharge during year, 25,500 second-feet Apr. 10 (gage height, 15.0 feet, from graph based on gage readings); minimum, 316 second-feet Sept. 11 (gage height, 2.34 feet).

1914, 1932-38: Maximum discharge, 48,000 second-feet Jan. 25, 1937 (gage height, 21.44 feet, from floodmark), from rating curve extended on basis of contracted-opening determination; minimum, 74 second-feet July 30, 1933 (gage height, 1.70 feet); minimum daily discharge, 97 second-feet July 22, Aug. 23, 1933.

Maximum stage known, 29.9 feet, from floodmark, Mar. 26, 1913 (discharge, about 87,000 second-feet).

Remarks.- Records good. Gage read twice daily. Regulation from storage in Milton and Pymatuning Reservoirs and from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|---------|--------|-----------------|-------------------|--------|--------|-------|-------|-------|-------|-------|
| 1 | 954 | 1,250 | 1,740 | 5,490 | 4,530 | 2,690 | 6,570 | 1,610 | 750 | 1,250 | 1,370 | 386 |
| 2 | 954 | 1,140 | 1,250 | 6,930 | 3,430 | 2,980 | 4,850 | 1,550 | 667 | 2,130 | 2,410 | 375 |
| 3 | 954 | 1,140 | 984 | 5,190 | 2,980 | 3,580 | 3,730 | 1,430 | 934 | 1,490 | 1,870 | 354 |
| 4 | 954 | 1,040 | 934 | 3,580 | 3,890 | 3,430 | 3,280 | 934 | 750 | 1,040 | 1,610 | 370 |
| 5 | 1,040 | 1,040 | 1,040 | 2,980 | 4,050 | 4,050 | 2,550 | 750 | 708 | 750 | 1,970 | 344 |
| 6 | 1,370 | 1,040 | 1,040 | 2,550 | 3,730 | 15,700 | 2,000 | 1,040 | 667 | 667 | 4,370 | 335 |
| 7 | 1,140 | 984 | 984 | 2,130 | 6,750 | 15,500 | 3,280 | 794 | 667 | 519 | 4,140 | 354 |
| 8 | 1,040 | 984 | 839 | 2,130 | 5,870 | 9,110 | 7,670 | 628 | 454 | 3,280 | 344 | 344 |
| 9 | 1,040 | 984 | 667 | 1,870 | 4,850 | 5,700 | 21,900 | 590 | 590 | 486 | 1,800 | 335 |
| 10 | 1,140 | 984 | 667 | 1,870 | 4,850 | 4,690 | 22,600 | 554 | 554 | 519 | 1,490 | 320 |
| 11 | 667 | 954 | 667 | 1,800 | 8,790 | 4,050 | 16,000 | 554 | 519 | 519 | 1,430 | 316 |
| 12 | 590 | 954 | 628 | 1,680 | 6,210 | 3,130 | 8,220 | 590 | 984 | 519 | 1,310 | 592 |
| 13 | 590 | 1,140 | 667 | 1,610 | 4,850 | 3,020 | 4,850 | 519 | 1,250 | 454 | 1,090 | 1,090 |
| 14 | 519 | 1,370 | 628 | 1,490 | 5,190 | 9,400 | 3,890 | 554 | 839 | 454 | 1,040 | 1,040 |
| 15 | 454 | 1,490 | 668 | 1,610 | 4,850 | 13,600 | 3,580 | 934 | 667 | 454 | 934 | 1,200 |
| 16 | 454 | 1,740 | 1,210 | 1,610 | 3,730 | 11,100 | 2,980 | 1,040 | 628 | 454 | 886 | 1,310 |
| 17 | 454 | 1,800 | 3,990 | 1,490 | 3,280 | 17,100 | 2,690 | 934 | 667 | 396 | 590 | 1,140 |
| 18 | 574 | 1,740 | 16,600 | 1,430 | 3,130 | 16,000 | 3,280 | 1,040 | 839 | 425 | 454 | 839 |
| 19 | 2,280 | 1,610 | 16,500 | 839 | 5,190 | 11,900 | 4,910 | 2,280 | 750 | 425 | 396 | 1,430 |
| 20 | 2,980 | 1,430 | 12,300 | 750 | 8,410 | 6,930 | 4,370 | 7,070 | 667 | 391 | 391 | 1,040 |
| 21 | 2,410 | 1,250 | 6,950 | 984 | 8,030 | 5,190 | 3,580 | 8,600 | 590 | 425 | 396 | 934 |
| 22 | 1,870 | 1,250 | 4,210 | 1,040 | 6,390 | 4,370 | 2,830 | 7,470 | 486 | 486 | 375 | 839 |
| 23 | 2,410 | 1,550 | 4,050 | 1,200 | 6,570 | 3,430 | 2,130 | 5,020 | 486 | 628 | 391 | 839 |
| 24 | 2,980 | 1,740 | 3,890 | 1,490 | 6,570 | 5,020 | 1,740 | 5,190 | 454 | 590 | 425 | 1,250 |
| 25 | 2,690 | 954 | 3,890 | 4,670 | 5,190 | 5,020 | 1,870 | 6,210 | 563 | 628 | 396 | 839 |
| 26 | 2,000 | 839 | 4,210 | 5,020 | 4,050 | 4,050 | 1,740 | 4,690 | 4,630 | 554 | 396 | 667 |
| 27 | 1,800 | 1,550 | 3,580 | 2,980 | 3,580 | 3,730 | 1,610 | 2,690 | 5,420 | 519 | 396 | 590 |
| 28 | 1,740 | 2,270 | 3,280 | 2,270 | 3,130 | 3,430 | 1,490 | 1,490 | 4,210 | 519 | 375 | 486 |
| 29 | 1,740 | 2,690 | 3,430 | 1,870 | 2,690 | 1,490 | 1,140 | 2,830 | 1,590 | 370 | 454 | 454 |
| 30 | 1,680 | 2,270 | 2,980 | 2,000 | 2,830 | 1,250 | 984 | 1,870 | 1,520 | 386 | 396 | 396 |
| 31 | 1,430 | | 2,690 | 3,580 | 4,850 | | 839 | | 1,140 | 375 | | |
| Month | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | | | | | |
| October | 2,980 | 454 | 1,381 | 0.618 | 0.71 | | | | | | | |
| November | 2,690 | 839 | 1,371 | .613 | .68 | | | | | | | |
| December | 16,600 | 628 | 3,457 | 1.55 | 1.79 | | | | | | | |
| January | 6,930 | 750 | 2,456 | 1.10 | 1.27 | | | | | | | |
| February | 8,790 | 2,980 | 5,215 | 2.33 | 2.43 | | | | | | | |
| March | 17,100 | 2,690 | 6,713 | 3.00 | 3.46 | | | | | | | |
| April | 22,600 | 1,250 | 5,094 | 2.28 | 2.54 | | | | | | | |
| May | 8,600 | 519 | 2,249 | 1.01 | 1.16 | | | | | | | |
| June | 5,420 | 454 | 1,210 | .541 | .60 | | | | | | | |
| July | 2,130 | 391 | 722 | .325 | .37 | | | | | | | |
| August | 4,370 | 370 | 1,197 | .536 | .62 | | | | | | | |
| September | 1,430 | 316 | 694 | .311 | .35 | | | | | | | |
| The year | 22,600 | 316 | 2,832 | 1.18 | 15.28 | | | | | | | |

Pymatuning Reservoir at Pymatuning Dam, Pa.

Location.- Water-stage recorder, lat. 41°30'00", long. 80°27'35", in gate house at Pymatuning Dam, Crawford County, 1 3/4 miles northwest of Jamestown. Zero of gage is at mean sea level (general adjustment of 1907).

Drainage area.- 158 square miles.

Records available.- October 1933 to September 1938.

Extremes.- Maximum water-surface elevation during year, 1,008.57 feet Apr. 22; minimum, 1,005.17 feet Nov. 15.

1933-38: Maximum water-surface elevation, 1,009.16 feet June 21, 1937; minimum, 975.70 feet Oct. 15, 16, 19, 1933.

Remarks.- Records excellent except those for periods during which recorder float was frozen, Dec. 6-9, Jan. 16-19, which are fair and were determined from trend of gage record. Reservoir used to regulate flow in Shenango River. Elevation of spillway is 1,008.0 feet. Total capacity of reservoir is 8,640,000,000 cubic feet.

Elevation, in feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1 | 6.73 | 5.98 | 5.84 | 6.41 | 6.14 | 7.13 | 7.25 | 7.98 | 7.95 | 7.61 | 7.15 | 6.37 |
| 2 | 6.70 | 5.91 | 5.86 | 6.46 | 6.16 | 7.07 | 7.26 | 7.91 | 7.98 | 7.68 | 7.14 | 6.31 |
| 3 | 6.67 | 5.91 | 5.83 | 6.46 | 6.19 | 7.14 | 7.22 | 7.91 | 8.00 | 7.68 | 7.14 | 6.25 |
| 4 | 6.47 | 5.78 | 5.80 | 6.48 | 6.26 | 7.05 | 7.28 | 7.97 | 7.96 | 7.64 | 7.11 | 6.24 |
| 5 | 6.38 | 5.73 | 5.76 | 6.51 | 6.31 | 7.03 | 7.29 | 7.98 | 7.98 | 7.62 | 7.11 | 6.22 |
| 6 | 6.37 | 5.68 | 5.74 | 6.52 | 6.38 | 7.28 | 7.34 | 7.98 | 7.89 | 7.60 | 7.08 | 6.14 |
| 7 | 6.33 | 5.60 | 5.70 | 6.50 | 6.50 | 7.27 | 7.37 | 8.00 | 7.90 | 7.66 | 7.13 | 6.11 |
| 8 | 6.22 | 5.44 | 5.68 | 6.43 | 6.53 | 7.26 | 7.48 | 8.00 | 7.91 | 7.84 | 7.13 | 6.11 |
| 9 | 6.09 | 5.53 | 5.65 | 6.36 | 6.64 | 7.21 | 7.98 | 7.93 | 7.88 | 7.52 | 7.11 | 6.05 |
| 10 | 6.06 | 5.48 | 5.62 | 6.31 | 6.89 | 7.16 | 8.03 | 7.99 | 7.82 | 7.51 | 7.06 | 5.98 |
| 11 | 6.05 | 5.42 | 5.58 | 6.26 | 6.92 | 7.08 | 8.01 | 7.97 | 7.80 | 7.46 | 7.12 | 5.99 |
| 12 | 6.05 | 5.31 | 5.54 | 6.20 | 6.91 | 7.00 | 8.10 | 7.92 | 7.89 | 7.42 | 7.07 | 6.03 |
| 13 | 6.06 | 5.31 | 5.52 | 6.15 | 7.09 | 6.93 | 8.14 | 7.88 | 7.88 | 7.42 | 7.01 | 6.11 |
| 14 | 6.05 | 5.25 | 5.48 | 6.09 | 7.30 | 6.94 | 8.17 | 7.83 | 7.83 | 7.33 | 6.98 | 6.09 |
| 15 | 6.03 | 5.20 | 5.45 | 6.03 | 7.26 | 6.86 | 8.20 | 7.90 | 7.79 | 7.41 | 6.93 | 6.23 |
| 16 | 6.02 | 5.24 | 5.46 | 5.96 | 7.21 | 6.82 | 8.20 | 7.88 | 7.78 | 7.34 | 6.93 | 6.22 |
| 17 | 5.95 | 5.33 | 5.51 | 5.92 | 7.11 | 6.94 | 8.19 | 7.85 | 7.80 | 7.31 | 6.93 | 6.15 |
| 18 | 5.96 | 5.33 | 5.81 | 5.89 | 7.19 | 6.95 | 8.31 | 7.87 | 7.79 | 7.32 | 6.91 | 6.12 |
| 19 | 6.19 | 5.38 | 5.96 | 5.86 | 7.46 | 6.88 | 8.36 | 7.92 | 7.77 | 7.29 | 6.84 | 6.18 |
| 20 | 6.21 | 5.39 | 6.03 | 5.81 | 7.58 | 6.84 | 8.42 | 7.98 | 7.74 | 7.26 | 6.81 | 6.17 |
| 21 | 6.26 | 5.45 | 6.08 | 5.77 | 7.47 | 6.79 | 8.46 | 8.02 | 7.72 | 7.25 | 6.77 | 6.21 |
| 22 | 6.32 | 5.48 | 6.12 | 5.74 | 7.42 | 6.78 | 8.51 | 8.01 | 7.68 | 7.20 | 6.76 | 6.27 |
| 23 | 6.39 | 5.47 | 6.15 | 5.70 | 7.46 | 6.77 | 8.46 | 7.96 | 7.63 | 7.22 | 6.70 | 6.40 |
| 24 | 6.26 | 5.49 | 6.14 | 5.71 | 7.46 | 6.98 | 8.37 | 8.11 | 7.60 | 7.21 | 6.72 | 6.45 |
| 25 | 6.25 | 5.51 | 6.18 | 5.86 | 7.40 | 6.94 | 8.37 | 8.05 | 7.58 | 7.17 | 6.64 | 6.45 |
| 26 | 6.23 | 5.57 | 6.20 | 5.93 | 7.31 | 7.06 | 8.30 | 8.07 | 7.70 | 7.14 | 6.58 | 6.43 |
| 27 | 6.32 | 5.68 | 6.20 | 5.96 | 7.36 | 7.09 | 8.22 | 8.07 | 7.75 | 7.13 | 6.56 | 6.46 |
| 28 | 6.32 | 5.72 | 6.19 | 5.98 | 7.31 | 7.05 | 8.15 | 8.08 | 7.71 | 7.10 | 6.52 | 6.43 |
| 29 | 6.15 | 5.77 | 6.20 | 5.99 | 7.06 | 6.16 | 8.04 | 7.66 | 7.16 | 6.47 | 6.44 | 6.44 |
| 30 | 6.14 | 5.80 | 6.24 | 6.02 | 7.12 | 6.12 | 7.97 | 7.61 | 7.11 | 6.43 | 6.43 | 6.43 |
| 31 | 6.09 | | 6.28 | 6.11 | 7.15 | | 7.99 | | 7.07 | 6.36 | | |

Note.- Add 1,000.00 feet to obtain elevations above mean sea level.

Shenango River at Pymatuning Dam, Pa.

Location.— Water-stage recorder and concrete control, lat. 41°29'55", long. 80°27'30", 500 feet below mouth of Sugar Run, 550 feet below Pymatuning Dam, Crawford County, and 1½ miles northwest of Jamestown. Zero of gage is 970.00 feet above mean sea level (general adjustment of 1907).

Drainage area.— 167 square miles.

Records available.— June 1934 to September 1938.

Extremes.— Maximum discharge during year, 768 second-feet Mar. 17 (gage height, 6.74 feet); minimum, 1.4 second-feet May 9 (gage height, 3.52 feet).
1934-38: Maximum discharge, 1,910 second-feet Sept. 4, 1937 (gage height, 9.2 feet, from extension of recorder graph), from rating curve extended above 700 second-feet; minimum, 0.1 second-foot June 30 to July 3, 1934.

Remarks.— Records excellent. Regulation from storage in Pymatuning Reservoir. Adjustment for effect of storage not included in records except in last three columns of monthly table; no adjustments made for evaporation and seepage losses from reservoir. Figures with minus sign indicate that evaporation and seepage from reservoir exceeded natural flow.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|------|----------|---------|------|-----------------------------------------|----------------------|--------------------|----------------------|------|------|------|-------|
| 1 | 624 | 459 | 6.0 | 577 | 13.1 | 624 | 19.0 | 610 | 92 | 35 | 9.6 | 167 |
| 2 | 624 | 459 | 143 | 314 | 6.4 | 638 | 9.3 | 196 | 85 | 4.0 | 26 | 167 |
| 3 | 624 | 459 | 295 | 107 | 19.4 | 638 | 7.6 | 1.8 | 63 | 35 | 60 | 153 |
| 4 | 624 | 454 | 295 | 8.1 | 24 | 638 | 7.5 | 4.4 | 86 | 60 | 81 | 140 |
| 5 | 624 | 454 | 295 | 6.2 | 12.4 | 599 | 6.2 | 3.5 | 94 | 77 | 104 | 140 |
| 6 | 624 | 454 | 295 | 105 | 24 | 109 | 5.7 | 2.4 | 94 | 88 | 114 | 140 |
| 7 | 624 | 459 | 295 | 487 | 29 | 394 | 7.0 | 1.9 | 119 | 102 | 63 | 140 |
| 8 | 624 | 459 | 295 | 610 | 104 | 624 | 152 | 1.6 | 125 | 131 | 84 | 137 |
| 9 | 303 | 459 | 291 | 607 | 368 | 610 | 156 | 61 | 125 | 146 | 111 | 137 |
| 10 | 125 | 459 | 291 | 416 | 372 | 610 | 42 | 92 | 128 | 146 | 122 | 137 |
| 11 | 125 | 459 | 291 | 421 | 304 | 610 | 25 | 92 | 128 | 109 | 122 | 137 |
| 12 | 104 | 459 | 291 | 422 | 490 | 607 | 13.8 | 89 | 92 | 110 | 125 | 106 |
| 13 | 88 | 459 | 291 | 610 | 563 | 610 | 10.0 | 97 | 78 | 140 | 122 | 75 |
| 14 | 88 | 459 | 291 | 414 | 548 | 624 | 7.9 | 97 | 94 | 127 | 122 | 29 |
| 15 | 88 | 281 | 291 | 600 | 638 | 624 | 6.4 | 99 | 114 | 81 | 125 | 3.8 |
| 16 | 88 | 192 | 300 | 600 | 638 | 663 | 6.2 | 39 | 128 | 92 | 125 | 45 |
| 17 | 88 | 142 | 356 | 193 | 624 | 697 | 6.7 | 2.0 | 128 | 104 | 122 | 71 |
| 18 | 111 | 120 | 557 | 154 | 478 | 624 | 11.0 | 3.5 | 128 | 104 | 122 | 73 |
| 19 | 124 | 72 | 258 | 286 | 416 | 624 | 23 | 13.7 | 128 | 104 | 122 | 77 |
| 20 | 97 | 70 | 24 | 286 | 663 | 610 | 9.8 | 12.0 | 134 | 116 | 122 | 52 |
| 21 | 114 | 62 | 15.2 | 281 | 650 | 362 | 6.4 | 5.0 | 156 | 140 | 122 | 3.6 |
| 22 | 184 | 62 | 200 | 281 | 650 | 7.3 | 6.4 | 2.8 | 156 | 140 | 122 | 10.6 |
| 23 | 323 | 70 | 314 | 286 | 663 | 9.2 | 201 | 3.0 | 164 | 143 | 128 | 7.4 |
| 24 | 319 | 76 | 309 | 128 | 650 | 21 | 463 | 14.6 | 174 | 143 | 134 | 3.8 |
| 25 | 304 | 64 | 323 | 73 | 638 | 10.8 | 459 | 9.7 | 174 | 143 | 153 | 2.2 |
| 26 | 300 | 33 | 304 | 12.6 | 638 | 15.8 | 459 | 3.7 | 105 | 143 | 167 | 28 |
| 27 | 407 | 40 | 300 | 9.2 | 638 | 11.0 | 459 | 2.6 | 8.4 | 143 | 167 | 44 |
| 28 | 468 | 22 | 200 | 5.4 | 638 | 7.0 | 151 | 41 | 2.2 | 140 | 167 | 79 |
| 29 | 463 | 174 | 9.4 | 4.4 | 42 | 365 | 62 | 23 | 95 | 95 | 167 | 92 |
| 30 | 463 | 94 | 7.9 | 15.4 | 16.7 | 610 | 62 | 73 | 109 | 167 | 167 | 102 |
| 31 | 463 | 140 | 28 | 16 | 36 | 85 | 85 | 85 | 128 | 167 | 167 | |
| Month | | Observed | | | Gain or loss in Storage (Mean) | Adjusted for storage | | | | | | |
| | | Maximum | Minimum | Mean | | Mean | Per square mile | Run-off in inches | | | | |
| October | | 624 | 88 | 330 | -158 | 172 | 1.03 | 1.19 | | | | |
| November | | 459 | 6.2 | 230 | - 69.1 | 161 | .984 | 1.08 | | | | |
| December | | 557 | 6.0 | 244 | +111 | 355 | 2.13 | 2.46 | | | | |
| January | | 610 | 4.4 | 263 | - 44.4 | 219 | 1.31 | 1.51 | | | | |
| February | | 663 | 6.4 | 411 | +301 | 712 | 4.26 | 4.44 | | | | |
| March | | 697 | 7.0 | 397 | - 23.2 | 374 | 2.24 | 2.58 | | | | |
| April | | 610 | 5.7 | 124 | +217 | 341 | 2.04 | 2.28 | | | | |
| May | | 610 | 1.6 | 58.4 | - 23.5 | 34.9 | .209 | .24 | | | | |
| June | | 174 | 2.2 | 107 | - 96.8 | 10.2 | .061 | .07 | | | | |
| July | | 146 | 4.0 | 109 | -116 | - 7 | -.042 | -.05 | | | | |
| August | | 167 | 9.6 | 118 | -159 | -41 | -.246 | -.28 | | | | |
| September | | 167 | 2.2 | 83.3 | 0 | 83.3 | .499 | .56 | | | | |
| The year | | 697 | 1.6 | 205 | - 7.7 | 197 | 1.18 | 16.08 | | | | |

Shenango River at Sharpsville, Pa.

Location.— Water-stage recorder, lat. 41°16'00", long. 80°28'20", 700 feet above Erie Railroad bridge at Sharpsville, Mercer County, 3 miles below mouth of Pymatuning Creek. Zero of gage is 866.89 feet above mean sea level (general adjustment of 1907).

Drainage area.— 588 square miles.

Records available.— March to September 1938.

Extremes.— Maximum discharge during period, 6,330 second-feet Apr. 10 (gage height, 8.00 feet); minimum, 113 second-feet Sept. 29 (gage height, 2.51 feet).

Remarks.— Records fair. Regulation from storage in Pymatuning Reservoir and from power operations upstream. Adjustment for effect of storage not included in records except in last three columns of monthly table; no adjustments made for evaporation and seepage losses from reservoir.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------------|------|----------|---------|-------|-----------------------------------------|----------------------|--------------------|----------------------|------|------|------|-------|
| 1 | | | | | | | 1,240 | 778 | 186 | 236 | 386 | 179 |
| 2 | | | | | | | 896 | 760 | 205 | 384 | 345 | 176 |
| 3 | | | | | | | 734 | 322 | 229 | 288 | 238 | 176 |
| 4 | | | | | | | 561 | 201 | 205 | 209 | 186 | 168 |
| 5 | | | | | | | 463 | 410 | 193 | 186 | 166 | 146 |
| 6 | | | | | | | 390 | 256 | 201 | 176 | 179 | 146 |
| 7 | | | | | | 3,500 | 421 | 201 | 193 | 176 | 201 | 146 |
| 8 | | | | | | 2,300 | 1,650 | 172 | 201 | 176 | 146 | 146 |
| 9 | | | | | | 1,820 | 4,870 | 152 | 213 | 209 | 143 | 146 |
| 10 | | | | | | 1,590 | 5,880 | 176 | 205 | 238 | 179 | 143 |
| 11 | | | | | | 1,330 | 3,340 | 225 | 209 | 217 | 213 | 146 |
| 12 | | | | | | 1,120 | 1,880 | 225 | 238 | 182 | 209 | 228 |
| 13 | | | | | | 1,110 | 1,240 | 213 | 215 | 176 | 193 | 313 |
| 14 | | | | | | 1,660 | 924 | 221 | 172 | 190 | 190 | 215 |
| 15 | | | | | | 2,120 | 643 | 303 | 182 | 190 | 186 | 272 |
| 16 | | | | | | 2,280 | 466 | 339 | 193 | 155 | 182 | 168 |
| 17 | | | | | | 4,030 | 409 | 247 | 213 | 143 | 179 | 137 |
| 18 | | | | | | 3,630 | 586 | 193 | 213 | 149 | 179 | 152 |
| 19 | | | | | | 2,360 | 1,020 | 329 | 213 | 152 | 168 | 212 |
| 20 | | | | | | 1,820 | 849 | 581 | 201 | 182 | 165 | 238 |
| 21 | | | | | | 1,590 | 635 | 462 | 201 | 155 | 165 | 201 |
| 22 | | | | | | 973 | 529 | 373 | 209 | 172 | 165 | 186 |
| 23 | | | | | | 596 | 434 | 293 | 209 | 182 | 149 | 261 |
| 24 | | | | | | 943 | 558 | 520 | 213 | 186 | 146 | 274 |
| 25 | | | | | | 877 | 717 | 620 | 221 | 186 | 146 | 209 |
| 26 | | | | | | 743 | 684 | 408 | 301 | 179 | 165 | 165 |
| 27 | | | | | | 726 | 659 | 274 | 643 | 179 | 179 | 131 |
| 28 | | | | | | 620 | 628 | 213 | 409 | 182 | 179 | 118 |
| 29 | | | | | | 529 | 344 | 186 | 238 | 269 | 179 | 123 |
| 30 | | | | | | 736 | 628 | 197 | 165 | 206 | 179 | 146 |
| 31 | | | | | | 1,180 | 186 | 186 | 193 | 193 | 179 | |
| Month | | Observed | | | Gain or loss in Storage (Mean) | Adjusted for storage | | | | | | |
| | | Maximum | Minimum | Mean | | Mean | Per square mile | Run-off in inches | | | | |
| October..... | | | | | | | | | | | | |
| November..... | | | | | | | | | | | | |
| December..... | | | | | | | | | | | | |
| January..... | | | | | | | | | | | | |
| February..... | | | | | | | | | | | | |
| March 1-31..... | | 4,030 | 529 | 1,607 | - 28.7 | 1,578 | 2.68 | 2.49 | | | | |
| April..... | | 5,880 | 344 | 1,142 | +217 | 1,359 | 2.31 | 2.58 | | | | |
| May..... | | 778 | 152 | 324 | - 23.5 | 300 | .510 | .59 | | | | |
| June..... | | 643 | 165 | 230 | - 96.8 | 133 | .226 | .25 | | | | |
| July..... | | 384 | 143 | 196 | -116 | 80 | .136 | .16 | | | | |
| August..... | | 386 | 143 | 189 | -159 | 30 | .051 | .06 | | | | |
| September..... | | 313 | 118 | 182 | 0 | 182 | .310 | .35 | | | | |
| The year..... | | | | | | | | | | | | |

Shenango River at Sharon, Pa.

Location.- Water-stage recorder, lat. 41°13'55", long. 80°30'35", at Chestnut Street Bridge, at Sharon, Mercer County, 500 feet above mouth of Pine Run. Zero of gage is 840.00 feet above mean sea level (preliminary levels of 1905).

Drainage area.- 608 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; August 1909 to September 1938 in reports of Pennsylvania Department of Forests and Waters (discontinued).

Average discharge.- 28 years (1910-38), 702 second-feet.

Extremes.- Maximum discharge during year, 7,400 second-feet Dec. 19 (gage height, 10.59 feet); minimum, 93 second-feet Sept. 29 (gage height, 2.93 feet); minimum daily discharge, 105 second-feet Sept. 28, 29.

1909-38: Maximum discharge, 25,200 second-feet Mar. 26, 1913 (gage height, 18.1 feet), from rating curve extended above 14,000 second-feet; minimum, 6.5 second-feet Sept. 22, 1932 (gage height, 1.63 feet).

Remarks.- Records poor. Discharge for periods of ice effect, Dec. 9-17, Jan. 8-10, 25-30, determined from gage heights, weather records, one discharge measurement, and by comparison with records for other stations in the basin. Regulation from storage in Pymatuning Reservoir and from power operations upstream. Adjustment for effect of storage not included in records except in last three columns of monthly table; no adjustments made for evaporation and seepage losses from reservoir.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|-------|----------|---------|-------|-----------------------------------------|----------------------|--------------------|----------------------|------|------|------|-------|
| 1 | 788 | 740 | 708 | 2,260 | 1,260 | 1,160 | 1,260 | 851 | 159 | 228 | 398 | 180 |
| 2 | 788 | 708 | 546 | 2,120 | 881 | 1,260 | 965 | 828 | 190 | 418 | 372 | 178 |
| 3 | 788 | 675 | 494 | 1,520 | 801 | 1,440 | 790 | 397 | 226 | 294 | 247 | 180 |
| 4 | 782 | 650 | 605 | 1,060 | 1,030 | 1,500 | 645 | 188 | 188 | 201 | 186 | 176 |
| 5 | 826 | 645 | 570 | 845 | 935 | 2,080 | 498 | 457 | 176 | 170 | 152 | 147 |
| 6 | 859 | 645 | 565 | 655 | 1,040 | 5,260 | 444 | 282 | 183 | 145 | 163 | 143 |
| 7 | 833 | 635 | 551 | 610 | 1,640 | 3,770 | 508 | 193 | 178 | 145 | 198 | 145 |
| 8 | 813 | 635 | 490 | 770 | 1,340 | 2,270 | 2,290 | 156 | 188 | 145 | 135 | 143 |
| 9 | 807 | 635 | 460 | 800 | 1,750 | 1,800 | 5,850 | 128 | 198 | 198 | 118 | 141 |
| 10 | 362 | 625 | 450 | 840 | 3,900 | 1,560 | 6,150 | 154 | 190 | 244 | 146 | 139 |
| 11 | 188 | 620 | 440 | 722 | 3,000 | 1,340 | 3,290 | 226 | 198 | 223 | 178 | 145 |
| 12 | 174 | 615 | 430 | 670 | 1,900 | 1,130 | 1,800 | 223 | 232 | 176 | 166 | 244 |
| 13 | 160 | 708 | 430 | 668 | 2,030 | 1,160 | 1,300 | 206 | 201 | 145 | 154 | 384 |
| 14 | 123 | 790 | 430 | 840 | 2,900 | 1,800 | 998 | 232 | 143 | 188 | 150 | 271 |
| 15 | 118 | 828 | 440 | 647 | 2,320 | 2,120 | 724 | 329 | 156 | 188 | 150 | 337 |
| 16 | 118 | 893 | 500 | 823 | 1,800 | 2,490 | 536 | 368 | 173 | 145 | 150 | 181 |
| 17 | 114 | 790 | 1,500 | 834 | 1,560 | 4,700 | 484 | 256 | 201 | 130 | 143 | 130 |
| 18 | 321 | 730 | 6,030 | 412 | 1,710 | 3,900 | 680 | 183 | 198 | 141 | 141 | 167 |
| 19 | 1,600 | 625 | 7,080 | 266 | 2,730 | 2,370 | 1,130 | 389 | 190 | 141 | 137 | 232 |
| 20 | 1,160 | 522 | 3,820 | 498 | 3,000 | 1,800 | 935 | 680 | 178 | 134 | 132 | 273 |
| 21 | 818 | 452 | 1,900 | 475 | 2,780 | 1,560 | 713 | 570 | 176 | 134 | 130 | 229 |
| 22 | 696 | 396 | 1,440 | 480 | 2,220 | 1,020 | 615 | 418 | 196 | 168 | 130 | 196 |
| 23 | 1,090 | 376 | 1,600 | 526 | 2,520 | 655 | 512 | 337 | 193 | 176 | 130 | 288 |
| 24 | 1,260 | 348 | 1,440 | 710 | 2,270 | 1,030 | 625 | 623 | 196 | 176 | 132 | 314 |
| 25 | 1,060 | 326 | 1,480 | 1,920 | 1,800 | 935 | 801 | 708 | 209 | 173 | 141 | 241 |
| 26 | 935 | 478 | 1,480 | 1,300 | 1,600 | 806 | 762 | 457 | 319 | 168 | 154 | 173 |
| 27 | 899 | 1,040 | 1,230 | 900 | 1,440 | 801 | 724 | 294 | 732 | 163 | 180 | 134 |
| 28 | 1,030 | 1,130 | 1,130 | 700 | 1,160 | 675 | 702 | 206 | 462 | 187 | 180 | 105 |
| 29 | 998 | 1,100 | 955 | 750 | 620 | 411 | 170 | 241 | 295 | 183 | 105 | 105 |
| 30 | 893 | 905 | 645 | 1,100 | 881 | 641 | 183 | 137 | 209 | 186 | 134 | 134 |
| 31 | 806 | | 697 | 1,680 | | 1,370 | | 163 | | 190 | 180 | |
| Month | | Observed | | | Gain or loss in storage (Mean) | Adjusted for storage | | | | | | |
| | | Maximum | Minimum | Mean | | Mean | Per square mile | Run-off in inches | | | | |
| October..... | | 1,600 | 114 | 716 | -158 | 558 | 0.918 | 1.06 | | | | |
| November..... | | 1,130 | 326 | 676 | - 69.1 | 607 | .998 | 1.11 | | | | |
| December..... | | 7,080 | 430 | 1,307 | +111 | 1,418 | 2.33 | 2.69 | | | | |
| January..... | | 2,260 | 266 | 916 | - 44.4 | 872 | 1.43 | 1.65 | | | | |
| February..... | | 3,900 | 801 | 1,904 | +301 | 2,205 | 3.63 | 3.78 | | | | |
| March..... | | 5,260 | 620 | 1,776 | - 23.2 | 1,753 | 2.88 | 3.32 | | | | |
| April..... | | 6,150 | 411 | 1,259 | +217 | 1,476 | 2.43 | 2.71 | | | | |
| May..... | | 851 | 128 | 350 | - 23.5 | 326 | .536 | .62 | | | | |
| June..... | | 732 | 137 | 220 | - 96.8 | 123 | .202 | .23 | | | | |
| July..... | | 418 | 130 | 188 | -116 | 72 | .118 | .14 | | | | |
| August..... | | 398 | 130 | 172 | -159 | 13 | .021 | .02 | | | | |
| September..... | | 384 | 105 | 195 | 0 | 195 | .321 | .36 | | | | |
| The year..... | | 7,080 | 105 | 800 | - 7.7 | 792 | 1.30 | 17.69 | | | | |

Sugar Run at Pymatuning Dam, Pa.

Location.- Staff gage and concrete control, lat. 41°29'50", long. 80°27'55", at highway bridge at Pymatuning Dam, Crawford County, a quarter of a mile above mouth and 1 3/4 miles northwest of Jamestown. Zero of gage is 984.58 feet (revised) above mean sea level (general adjustment of 1907).

Drainage area.- 9.34 square miles.

Records available.- March 1934 to September 1938.

Extremes.- Maximum discharge during year, 500 second-feet Dec. 18 (gage height, 3.5 feet, from graph based on gage readings), from rating curve extended above 290 second-feet; no flow Aug. 23 to Sept. 12.

1934-38: Maximum discharge, 1,820 second-feet Sept. 4, 1937 (gage height, 6.80 feet), from rating curve extended above 200 second-feet; no flow at times.

Remarks.- Records fair. Discharge for periods of ice effect, Dec. 8-15, Jan. 11-22, Jan. 28 to Feb. 3, Feb. 27 to Mar. 1, determined from gage heights, weather records, and by comparison with records for the other stations in the basin. Gage read twice daily.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|----------------|------|------|------|------|---------|---------|------|-----------------|-------------------|------|------|-------|
| 1 | 0.32 | 2.3 | 5.1 | 95 | 11 | 6 | 17 | 1.7 | 0.42 | 1.5 | 7.3 | 0 |
| 2 | .32 | 2.0 | 3.2 | 20 | 6.0 | 13 | 8.8 | 1.4 | .90 | 3.2 | 1.5 | 0 |
| 3 | .32 | 2.0 | 2.8 | 9.8 | 18 | 16 | 7.0 | 1.3 | 1.5 | 1.3 | .66 | 0 |
| 4 | .32 | 1.7 | 2.8 | 7.5 | 26 | 7.0 | 7.0 | 4.0 | .70 | .51 | .32 | 0 |
| 5 | .61 | 1.7 | 3.2 | 5.3 | 13 | 206 | 5.6 | 2.9 | .61 | .23 | .23 | 0 |
| 6 | 1.5 | 2.0 | 3.4 | 4.2 | 27 | 88 | 4.9 | 2.0 | .46 | .19 | .18 | 0 |
| 7 | .70 | 1.7 | 2.9 | 5.1 | 30 | 23 | 6.7 | 1.3 | .42 | .14 | 2.0 | 0 |
| 8 | .56 | 1.7 | 2.6 | 3.2 | 15 | 13 | 144 | 1.0 | .42 | .10 | .42 | 0 |
| 9 | .42 | 1.8 | 2.3 | 2.0 | 62 | 8.4 | 152 | .90 | .28 | .51 | .23 | 0 |
| 10 | .61 | 1.7 | 2.0 | 2.3 | 74 | 8.4 | 39 | 1.3 | .23 | .32 | .19 | 0 |
| 11 | .70 | 1.5 | 1.8 | 2.5 | 18 | 6.4 | 25 | 1.2 | .23 | .23 | .23 | 0 |
| 12 | .70 | 1.3 | 1.7 | 2.5 | 14 | 4.5 | 13 | .90 | .90 | .32 | .19 | 1.2 |
| 13 | .61 | 4.6 | 1.6 | 2.3 | 79 | 8.4 | 9.5 | .70 | .65 | .19 | .10 | 1.1 |
| 14 | .61 | 5.3 | 1.5 | 2.1 | 40 | 25 | 7.5 | 1.4 | .37 | .23 | .06 | 1.0 |
| 15 | .56 | 8.1 | 1.8 | 1.8 | 16 | 24 | 5.9 | 4.7 | .23 | .23 | .04 | 2.9 |
| 16 | .61 | 22 | 28 | 1.6 | 7.0 | 62 | 5.6 | 2.8 | .32 | .17 | .03 | .65 |
| 17 | .51 | 14 | 128 | 1.4 | 7.8 | 123 | 6.4 | 1.5 | .42 | .12 | .04 | .51 |
| 18 | 27 | 14 | 275 | 1.2 | 64 | 25 | 11 | 3.2 | .32 | .12 | .04 | .56 |
| 19 | 33 | 7.8 | 55 | 1.1 | 68 | 15 | 22 | 12 | .21 | .12 | .03 | 6.4 |
| 20 | 7.5 | 6.7 | 23 | .9 | 41 | 11 | 8.8 | 11 | .19 | .08 | .02 | 2.3 |
| 21 | 3.6 | 5.9 | 15 | 1.2 | 20 | 8.4 | 5.9 | 4.0 | .15 | .04 | .01 | 1.6 |
| 22 | 5.9 | 6.4 | 16 | 2.0 | 22 | 6.7 | 6.1 | 2.3 | .12 | .04 | .01 | 10 |
| 23 | 23 | 7.3 | 25 | 4.7 | 50 | 10 | 4.5 | 2.3 | .10 | .61 | 0 | 6.4 |
| 24 | 17 | 6.4 | 16 | 30 | 21 | 20 | 3.4 | 14 | .10 | .19 | 0 | 2.2 |
| 25 | 8.8 | 5.9 | 32 | 78 | 12 | 11 | 3.0 | 8.8 | .08 | .08 | 0 | .90 |
| 26 | 5.6 | 38 | 18 | 12 | 10 | 16 | 2.6 | 2.9 | 2.2 | .04 | 0 | .56 |
| 27 | 7.0 | 39 | 6.9 | 8.1 | 8 | 9.8 | 2.3 | 1.7 | 6.9 | .04 | 0 | .42 |
| 28 | 8.8 | 23 | 9.8 | 5.2 | 7 | 6.1 | 1.7 | 1.1 | 1.5 | .04 | 0 | .28 |
| 29 | 5.9 | 17 | 9.5 | 4.3 | 7 | 9.2 | 2.2 | .70 | .51 | 1.8 | 0 | .23 |
| 30 | 4.0 | 7.5 | 7.8 | 15 | 16 | 16 | 2.2 | .61 | .28 | .42 | 0 | .19 |
| 31 | 3.0 | | 34 | 26 | | 36 | | .42 | | .54 | 0 | |
| Month | | | | | Maximum | Minimum | Mean | Per square mile | Run-off in inches | | | |
| October..... | | | | | 33 | 0.32 | 5.49 | 0.588 | 0.69 | | | |
| November..... | | | | | 39 | 1.3 | 8.67 | .928 | 1.04 | | | |
| December..... | | | | | 275 | 1.5 | 23.8 | 2.55 | 2.94 | | | |
| January..... | | | | | 93 | .9 | 11.5 | 1.23 | 1.42 | | | |
| February..... | | | | | 79 | 6.0 | 28.1 | 3.01 | 3.13 | | | |
| March..... | | | | | 206 | 4.5 | 27.2 | 2.91 | 3.36 | | | |
| April..... | | | | | 152 | 1.7 | 18.0 | 1.93 | 2.15 | | | |
| May..... | | | | | 14 | .42 | 3.10 | .332 | .38 | | | |
| June..... | | | | | 6.9 | .08 | .724 | .078 | .09 | | | |
| July..... | | | | | 3.2 | .04 | .440 | .047 | .05 | | | |
| August..... | | | | | 7.3 | 0 | .443 | .047 | .05 | | | |
| September..... | | | | | 10 | 0 | 1.31 | .140 | .16 | | | |
| The year | | | | | 275 | 0 | 10.6 | 1.13 | 15.45 | | | |

Little Shenango River at Greenville, Pa.

Location.— Water-stage recorder, lat. 41°25'15", long. 80°22'35", 1,500 feet below Williamson Crossing Bridge, 1 mile northeast of Greenville, Mercer County, and 2 miles above mouth. Zero of gage is 953.46 feet above mean sea level (general adjustment of 1912).

Drainage area.— 104 square miles.

Records available.— November 1919 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; January 1914 to August 1923, November 1925 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 18 years (1914-18, 1920-22, 1926-38), 138 second-feet.

Extremes.— Maximum discharge during year, 2,780 second-feet Dec. 18 (gage height, 8.67 feet); minimum, 6.2 second-feet Sept. 10 (gage height, 0.79 foot). 1919-23, 1925-38: Maximum discharge, 4,600 second-feet Jan. 25, 1937 (gage height, 11.00 feet), from rating curve extended above 2,000 second-feet; minimum, 2.0 second-feet Aug. 21, 1923.

Remarks.— Records good except those for periods of ice effect, Nov. 23-25, Dec. 2-16, Jan. 9-23, 28, 29, Feb. 27 to Mar. 1, which are fair and were determined from gage heights, weather records, and by comparison with records for stations in adjacent drainage areas. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|------|---------|------|-----------------|-------|-------------------|-----|------|------|------|-------|
| 1 | 21 | 63 | 112 | 702 | 251 | 170 | 279 | 68 | 30 | 33 | 90 | 7.9 |
| 2 | 22 | 59 | 95 | 490 | 158 | 239 | 160 | 59 | 35 | 114 | 82 | 7.9 |
| 3 | 20 | 53 | 84 | 219 | 161 | 320 | 133 | 53 | 51 | 73 | 42 | 7.6 |
| 4 | 16 | 50 | 72 | 157 | 320 | 176 | 124 | 219 | 36 | 38 | 27 | 7.2 |
| 5 | 23 | 47 | 66 | 134 | 208 | 381 | 110 | 148 | 32 | 27 | 30 | 7.2 |
| 6 | 34 | 48 | 63 | 106 | 251 | 1,670 | 100 | 83 | 30 | 22 | 24 | 6.8 |
| 7 | 28 | 53 | 60 | 112 | 453 | 722 | 110 | 61 | 27 | 19 | 25 | 6.8 |
| 8 | 24 | 46 | 57 | 83 | 287 | 311 | 414 | 52 | 27 | 18 | 24 | 6.8 |
| 9 | 24 | 42 | 55 | 74 | 429 | 220 | 1,700 | 48 | 25 | 29 | 19 | 6.8 |
| 10 | 26 | 48 | 64 | 67 | 1,140 | 189 | 1,800 | 50 | 23 | 29 | 17 | 6.6 |
| 11 | 25 | 45 | 53 | 63 | 568 | 154 | 587 | 51 | 24 | 21 | 18 | 7.9 |
| 12 | 27 | 39 | 52 | 60 | 257 | 130 | 358 | 48 | 26 | 23 | 17 | 13 |
| 13 | 27 | 76 | 51 | 58 | 616 | 144 | 244 | 43 | 32 | 19 | 14 | 21 |
| 14 | 27 | 109 | 50 | 60 | 920 | 245 | 196 | 44 | 25 | 18 | 14 | 18 |
| 15 | 28 | 101 | 50 | 55 | 397 | 388 | 158 | 100 | 22 | 41 | 15 | 39 |
| 16 | 28 | 218 | 150 | 52 | 215 | 445 | 136 | 81 | 21 | 25 | 14 | 34 |
| 17 | 32 | 199 | 519 | 49 | 175 | 1,110 | 130 | 54 | 25 | 19 | 13 | 18 |
| 18 | 91 | 171 | 2,170 | 45 | 308 | 709 | 191 | 60 | 24 | 19 | 12 | 14 |
| 19 | 542 | 129 | 1,450 | 42 | 940 | 319 | 381 | 120 | 21 | 19 | 11 | 23 |
| 20 | 307 | 113 | 529 | 41 | 708 | 234 | 200 | 179 | 19 | 17 | 9.6 | 39 |
| 21 | 141 | 102 | 296 | 42 | 455 | 194 | 146 | 101 | 18 | 15 | 9.3 | 28 |
| 22 | 105 | 100 | 248 | 44 | 320 | 158 | 143 | 70 | 17 | 14 | 10 | 61 |
| 23 | 282 | 98 | 285 | 58 | 530 | 145 | 124 | 63 | 16 | 16 | 9.6 | 84 |
| 24 | 238 | 96 | 211 | 138 | 385 | 301 | 101 | 180 | 14 | 17 | 9.0 | 51 |
| 25 | 145 | 100 | 303 | 664 | 244 | 205 | 92 | 152 | 16 | 14 | 8.6 | 32 |
| 26 | 109 | 193 | 280 | 367 | 199 | 190 | 78 | 86 | 47 | 13 | 8.6 | 22 |
| 27 | 133 | 424 | 170 | 190 | 170 | 176 | 70 | 61 | 226 | 12 | 8.2 | 18 |
| 28 | 144 | 296 | 154 | 130 | 150 | 133 | 63 | 50 | 98 | 13 | 8.2 | 16 |
| 29 | 123 | 339 | 146 | 120 | 120 | 127 | 77 | 43 | 44 | 30 | 8.2 | 17 |
| 30 | 99 | 181 | 129 | 131 | 183 | 79 | 79 | 29 | 41 | 41 | 7.9 | 13 |
| 31 | 75 | 159 | 360 | 360 | 269 | 34 | 24 | 34 | 24 | 24 | 7.9 | |
| Month | Maximum | | Minimum | Mean | Per square mile | | Run-off in inches | | | | | |
| October | 542 | | 16 | 98.7 | 0.920 | | 1.06 | | | | | |
| November | 424 | | 39 | 121 | 1.16 | | 1.29 | | | | | |
| December | 2,170 | | 50 | 263 | 2.53 | | 2.92 | | | | | |
| January | 702 | | 41 | 158 | 1.52 | | 1.75 | | | | | |
| February | 1,140 | | 150 | 401 | 3.86 | | 4.02 | | | | | |
| March | 1,670 | | 127 | 334 | 3.21 | | 3.70 | | | | | |
| April | 1,700 | | 63 | 263 | 2.53 | | 2.82 | | | | | |
| May | 219 | | 34 | 79.9 | .768 | | .89 | | | | | |
| June | 226 | | 14 | 36.0 | .346 | | .39 | | | | | |
| July | 114 | | 12 | 26.8 | .258 | | .30 | | | | | |
| August | 90 | | 7.9 | 19.7 | .189 | | .22 | | | | | |
| September | 84 | | 6.5 | 21.3 | .205 | | .23 | | | | | |
| The year | 2,170 | | 6.5 | 150 | 1.44 | | 19.59 | | | | | |

Pymatuning Creek near Orangeville, Pa.

Location.— Water-stage recorder, lat. 41°18'40", long. 80°28'40", 2 miles above mouth, 3 miles southeast of Orangeville, Mercer County, and 3 miles north of Sharpville. Zero of gage is 872.94 feet above mean sea level (general adjustment of 1912).

Drainage area.— 169 square miles.

Records available.— October 1918 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; January 1914 to August 1923, November 1925 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 20 years (1914-22, 1926-38), 205 second-feet.

Extremes.— Maximum discharge during year, 2,200 second-feet Apr. 10 (gage height, 9.18 feet); minimum, 2.1 second-feet Sept. 8, 7, 9-11 (gage height, 1.18 feet). 1914-23, 1925-38: Maximum discharge, 3,250 second-feet Mar. 25, 1936 (gage height, 10.68 feet), from rating curve extended above 2,100 second-feet; minimum, 0.5 second-feet Sept. 25, 1933.

Maximum stage known, 18.0 feet, from floodmark, former site and datum, Mar. 26, 1913 (probably affected by backwater from Shenango River; discharge not determined).

Remarks.— Records fair. Discharge for periods of recorder failure, Oct. 5-9, 13-16, Oct. 28 to Nov. 7, determined from partial record shown by recorder charts and by comparison with records for stations in adjacent drainage areas. Discharge for periods of ice effect, Nov. 24, 25, Dec. 7-15, Jan. 8-23, Jan. 27 to Feb. 2, Feb. 28 to Mar. 1, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Some regulation from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|------|------|-------|---------|-------|---------|-------|------|------|-----------------|------|-------------------|
| 1 | 13 | 90 | 334 | 486 | 220 | 150 | 345 | 41 | 19 | 38 | 103 | 3.2 |
| 2 | 13 | 70 | 264 | 465 | 200 | 152 | 345 | 36 | 20 | 54 | 104 | 3.2 |
| 3 | 13 | 48 | 145 | 530 | 229 | 182 | 300 | 34 | 23 | 53 | 81 | 3.2 |
| 4 | 12 | 43 | 90 | 471 | 258 | 170 | 204 | 34 | 23 | 45 | 44 | 3.2 |
| 5 | 15 | 40 | 55 | 384 | 300 | 401 | 138 | 34 | 24 | 28 | 26 | 2.8 |
| 6 | 20 | 37 | 47 | 267 | 351 | 1,010 | 116 | 36 | 21 | 18 | 16 | 2.3 |
| 7 | 26 | 36 | 43 | 150 | 475 | 1,250 | 118 | 35 | 18 | 14 | 14 | 2.3 |
| 8 | 25 | 34 | 41 | 84 | 448 | 861 | 530 | 30 | 16 | 11 | 12 | 2.5 |
| 9 | 24 | 34 | 39 | 65 | 666 | 594 | 1,560 | 26 | 14 | 14 | 12 | 2.3 |
| 10 | 23 | 34 | 38 | 55 | 1,070 | 426 | 2,140 | 24 | 14 | 13 | 12 | 2.3 |
| 11 | 21 | 34 | 36 | 50 | 1,060 | 243 | 1,590 | 24 | 14 | 10 | 14 | 2.8 |
| 12 | 21 | 34 | 35 | 47 | 825 | 140 | 892 | 24 | 19 | 11 | 11 | 48 |
| 13 | 20 | 49 | 35 | 46 | 690 | 129 | 568 | 23 | 18 | 10 | 10 | 80 |
| 14 | 20 | 62 | 34 | 48 | 690 | 223 | 376 | 27 | 17 | 9.6 | 9.2 | 73 |
| 15 | 20 | 85 | 34 | 45 | 690 | 291 | 203 | 48 | 18 | 12 | 8.0 | 79 |
| 16 | 19 | 168 | 90 | 42 | 621 | 479 | 127 | 46 | 18 | 8.8 | 9.2 | 70 |
| 17 | 19 | 238 | 388 | 41 | 482 | 1,110 | 109 | 40 | 18 | 7.7 | 10 | 55 |
| 18 | 94 | 225 | 1,630 | 38 | 442 | 1,090 | 120 | 45 | 19 | 7.7 | 9.2 | 51 |
| 19 | 255 | 233 | 1,830 | 36 | 532 | 794 | 196 | 81 | 19 | 7.4 | 6.5 | 77 |
| 20 | 280 | 192 | 1,630 | 35 | 803 | 581 | 222 | 117 | 16 | 6.8 | 6.2 | 80 |
| 21 | 280 | 154 | 1,250 | 35 | 953 | 416 | 215 | 115 | 14 | 6.2 | 5.6 | 60 |
| 22 | 264 | 128 | 825 | 36 | 720 | 250 | 176 | 109 | 11 | 5.6 | 5.6 | 80 |
| 23 | 289 | 116 | 621 | 50 | 705 | 152 | 126 | 98 | 10 | 7.4 | 5.0 | 110 |
| 24 | 289 | 105 | 531 | 100 | 556 | 196 | 96 | 131 | 9.6 | 8.4 | 4.8 | 122 |
| 25 | 289 | 100 | 471 | 389 | 471 | 236 | 81 | 158 | 9.2 | 8.0 | 4.5 | 112 |
| 26 | 280 | 162 | 405 | 326 | 384 | 258 | 66 | 126 | 37 | 7.1 | 4.8 | 90 |
| 27 | 246 | 264 | 374 | 240 | 288 | 258 | 56 | 84 | 92 | 6.5 | 4.2 | 65 |
| 28 | 210 | 334 | 300 | 180 | 170 | 229 | 48 | 56 | 82 | 6.2 | 3.5 | 37 |
| 29 | 170 | 344 | 258 | 160 | | 196 | 47 | 38 | 66 | 28 | 3.2 | 21 |
| 30 | 140 | 354 | 202 | 170 | | 208 | 44 | 28 | 38 | 26 | 3.2 | 14 |
| 31 | 110 | | 215 | 280 | | 338 | | 22 | | 29 | 3.5 | |
| Month | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches |
| October | | | | 289 | | 12 | | 114 | | 0.675 | | 0.78 |
| November | | | | 354 | | 34 | | 128 | | .757 | | .84 |
| December | | | | 1,830 | | 34 | | 396 | | 2.34 | | 2.70 |
| January | | | | 530 | | 35 | | 173 | | 1.02 | | 1.18 |
| February | | | | 1,070 | | 170 | | 546 | | 3.23 | | 3.36 |
| March | | | | 1,250 | | 129 | | 420 | | 2.49 | | 2.87 |
| April | | | | 2,140 | | 44 | | 372 | | 2.20 | | 2.46 |
| May | | | | 158 | | 22 | | 57.1 | | .338 | | .39 |
| June | | | | 92 | | 9.2 | | 24.6 | | .146 | | .16 |
| July | | | | 54 | | 5.6 | | 16.7 | | .099 | | .11 |
| August | | | | 104 | | 3.2 | | 18.2 | | .108 | | .12 |
| September | | | | 122 | | 2.3 | | 45.1 | | .267 | | .30 |
| The year | | | | 2,140 | | 2.3 | | 190 | | 1.12 | | 15.27 |

Connoquenessing Creek at Hazen, Pa.

Location.- Chain gage, lat. 40°49'00", long. 80°14'35", at highway bridge at Hazen, Beaver County, half a mile above mouth of Brush Creek. Zero of gage is 852.31 feet above mean sea level (general adjustment of 1912).

Drainage area.- 356 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1938 in reports of U. S. Geological Survey; June 1915 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 18 years (1919-38), 492 second-feet.

Extremes.- Maximum discharge during year, 11,000 second-feet Dec. 18 (gage height, 12.0 feet, from graph based on gage readings), from rating curve extended on basis of slope-area determination; minimum, 10 second-feet Sept. 6 (gage height, 0.88 foot).

1915-38: Maximum discharge, 22,300 second-feet (revised) June 29, 1924 (gage height, 16.86 feet), from rating curve extended on basis of slope-area determination; minimum, 6.0 second-feet July 21-23, 1936 (gage height, 0.82 foot).

Remarks.- Records good except those for periods of ice effect, Dec. 4-16, Jan. 10-23, which are fair and were determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Some regulation from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----------|---------|------|---------|-------|-------|-------|-----------------|-------|-------------------|------|------|-------|
| 1 | 29 | 365 | 308 | 1,310 | 775 | 440 | 1,050 | 240 | 258 | 334 | 76 | 15 |
| 2 | 26 | 322 | 229 | 1,050 | 690 | 466 | 894 | 220 | 233 | 440 | 76 | 14 |
| 3 | 24 | 282 | 203 | 864 | 663 | 510 | 718 | 193 | 314 | 334 | 68 | 14 |
| 4 | 23 | 254 | 190 | 718 | 746 | 396 | 636 | 165 | 258 | 240 | 63 | 14 |
| 5 | 28 | 222 | 180 | 636 | 584 | 591 | 534 | 141 | 240 | 180 | 51 | 12 |
| 6 | 59 | 200 | 170 | 510 | 886 | 2,030 | 559 | 120 | 226 | 139 | 52 | 10 |
| 7 | 55 | 168 | 160 | 486 | 2,670 | 1,240 | 1,870 | 103 | 187 | 122 | 46 | 14 |
| 8 | 27 | 154 | 150 | 396 | 1,580 | 987 | 2,960 | 100 | 314 | 115 | 577 | 17 |
| 9 | 33 | 150 | 140 | 276 | 1,310 | 775 | 6,800 | 98 | 193 | 122 | 444 | 16 |
| 10 | 35 | 140 | 130 | 230 | 1,800 | 663 | 4,880 | 100 | 139 | 174 | 203 | 20 |
| 11 | 39 | 128 | 130 | 210 | 1,240 | 584 | 2,250 | 107 | 162 | 122 | 136 | 17 |
| 12 | 40 | 144 | 120 | 190 | 1,050 | 534 | 1,660 | 93 | 276 | 128 | 89 | 31 |
| 13 | 65 | 477 | 120 | 190 | 894 | 643 | 1,050 | 80 | 276 | 115 | 70 | 177 |
| 14 | 62 | 345 | 120 | 200 | 864 | 3,330 | 804 | 93 | 165 | 85 | 58 | 177 |
| 15 | 52 | 294 | 130 | 200 | 636 | 4,110 | 690 | 203 | 117 | 92 | 50 | 133 |
| 16 | 44 | 330 | 300 | 180 | 534 | 2,410 | 584 | 165 | 117 | 68 | 45 | 89 |
| 17 | 39 | 317 | 4,500 | 170 | 486 | 2,090 | 463 | 130 | 122 | 58 | 39 | 68 |
| 18 | 68 | 335 | 10,600 | 150 | 559 | 1,450 | 440 | 225 | 107 | 51 | 32 | 45 |
| 19 | 370 | 322 | 5,370 | 150 | 746 | 1,050 | 534 | 1,840 | 93 | 54 | 26 | 42 |
| 20 | 262 | 308 | 1,940 | 130 | 1,590 | 864 | 440 | 2,030 | 76 | 51 | 27 | 45 |
| 21 | 200 | 258 | 1,450 | 140 | 1,490 | 718 | 354 | 1,310 | 65 | 182 | 23 | 40 |
| 22 | 257 | 215 | 1,120 | 180 | 1,120 | 610 | 334 | 2,260 | 61 | 190 | 22 | 58 |
| 23 | 777 | 200 | 775 | 320 | 1,060 | 559 | 295 | 1,700 | 58 | 95 | 22 | 39 |
| 24 | 605 | 154 | 663 | 586 | 864 | 636 | 258 | 3,280 | 54 | 61 | 20 | 45 |
| 25 | 435 | 152 | 775 | 2,350 | 718 | 584 | 233 | 2,140 | 88 | 52 | 20 | 39 |
| 26 | 410 | 200 | 718 | 1,320 | 636 | 534 | 200 | 1,240 | 741 | 48 | 17 | 32 |
| 27 | 952 | 270 | 584 | 956 | 584 | 463 | 180 | 894 | 2,460 | 42 | 17 | 25 |
| 28 | 1,240 | 317 | 534 | 636 | 486 | 375 | 171 | 559 | 1,180 | 112 | 15 | 23 |
| 29 | 1,050 | 490 | 534 | 534 | 375 | 258 | 440 | 610 | 136 | 136 | 14 | 23 |
| 30 | 725 | 435 | 584 | 559 | 460 | 258 | 375 | 396 | 87 | 14 | 23 | |
| 31 | 518 | | 718 | 1,290 | | 1,080 | | 295 | | 67 | 15 | |
| Month | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | | | |
| October | 1,240 | | 23 | | 276 | | 0.775 | | 0.89 | | | |
| November | 490 | | 128 | | 266 | | .747 | | .83 | | | |
| December | 10,600 | | 120 | | 1,085 | | 3.05 | | 3.52 | | | |
| January | 2,350 | | 130 | | 552 | | 1.55 | | 1.79 | | | |
| February | 2,670 | | 486 | | 971 | | 2.73 | | 2.84 | | | |
| March | 4,110 | | 375 | | 1,019 | | 2.86 | | 3.30 | | | |
| April | 6,800 | | 171 | | 1,079 | | 3.03 | | 3.38 | | | |
| May | 3,280 | | 80 | | 675 | | 1.90 | | 2.19 | | | |
| June | 2,460 | | 54 | | 320 | | .899 | | 1.00 | | | |
| July | 440 | | 42 | | 132 | | .371 | | .43 | | | |
| August | 577 | | 14 | | 78.3 | | .220 | | .25 | | | |
| September | 177 | | 10 | | 43.2 | | .121 | | .14 | | | |
| The year | 10,600 | | 10 | | 539 | | 1.51 | | 20.56 | | | |

Slippery Rock Creek at Wurttemberg, Pa.

Location.- Chain gage, lat. 40°51'40", long. 80°14'35", at highway bridge at Wurttemberg, Lawrence County, 1 mile above mouth. Zero of gage is 812.48 feet above mean sea level (general adjustment of 1907).

Drainage area.- 406 square miles.

Records available.- October 1918 to September 1920, October 1931 to September 1938 in reports of U. S. Geological Survey; January 1912 to September 1938 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 25 years (1912-32, 1933-38), 561 second-feet.

Extremes.- Maximum discharge during year, 9,980 second-feet Dec. 18 (gage height, 8.8 feet, from graph based on gage readings); minimum observed, 10 second-feet Aug. 22, 25 (gage height, 2.10 feet); minimum daily discharge, 12 second-feet Aug. 25.

1912-38: Maximum discharge, 25,700 second-feet Jan. 25, 1937 (gage height, 12.05 feet, from floodmark), from rating curve extended above 8,000 second-feet; minimum observed, that of Aug. 22, 25, 1938; minimum daily discharge, that of Aug. 25, 1938.

Remarks.- Records fair. Discharge for periods of ice effect, Dec. 4-16, Jan. 10-24, 29, 30, determined from gage heights, weather records, one discharge measurement, and by comparison with records for stations in adjacent drainage areas. Gage read twice daily. Regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1937-38

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | |
|-----------|-------|------|-------|-------|---------|-------|---------|-------|-------|-------|-----------------|-------|-------------------|--|
| 1 | 62 | 414 | 474 | 1,460 | 1,120 | 480 | 1,470 | 297 | 239 | 378 | 247 | 37 | | |
| 2 | 60 | 297 | 355 | 1,290 | 670 | 572 | 1,040 | 267 | 251 | 1,000 | 455 | 31 | | |
| 3 | 58 | 262 | 279 | 885 | 638 | 922 | 775 | 235 | 251 | 730 | 267 | 36 | | |
| 4 | 53 | 250 | 250 | 670 | 885 | 670 | 740 | 223 | 251 | 382 | 166 | 37 | | |
| 5 | 51 | 218 | 230 | 572 | 474 | 585 | 638 | 212 | 212 | 271 | 117 | 29 | | |
| 6 | 130 | 218 | 210 | 540 | 920 | 4,300 | 540 | 205 | 187 | 212 | 100 | 23 | | |
| 7 | 124 | 206 | 190 | 468 | 2,410 | 2,810 | 960 | 183 | 194 | 187 | 236 | 26 | | |
| 8 | 107 | 199 | 180 | 387 | 1,890 | 1,570 | 2,450 | 166 | 187 | 176 | 1,720 | 29 | | |
| 9 | 98 | 206 | 170 | 199 | 1,470 | 1,080 | 7,100 | 156 | 156 | 156 | 642 | 22 | | |
| 10 | 110 | 202 | 160 | 210 | 2,120 | 848 | 6,800 | 166 | 147 | 159 | 271 | 23 | | |
| 11 | 107 | 237 | 160 | 200 | 1,780 | 670 | 3,300 | 166 | 125 | 140 | 288 | 20 | | |
| 12 | 115 | 210 | 150 | 190 | 1,080 | 572 | 2,450 | 156 | 212 | 159 | 297 | 26 | | |
| 13 | 110 | 422 | 150 | 180 | 1,040 | 715 | 1,070 | 153 | 500 | 111 | 190 | 82 | | |
| 14 | 118 | 740 | 150 | 190 | 1,120 | 3,290 | 895 | 190 | 271 | 111 | 144 | 180 | | |
| 15 | 118 | 670 | 150 | 180 | 960 | 4,500 | 700 | 293 | 163 | 108 | 105 | 208 | | |
| 16 | 110 | 740 | 300 | 170 | 638 | 2,620 | 582 | 337 | 144 | 100 | 84 | 205 | | |
| 17 | 95 | 810 | 2,550 | 160 | 540 | 3,060 | 555 | 227 | 144 | 82 | 74 | 94 | | |
| 18 | 119 | 638 | 8,660 | 160 | 622 | 2,120 | 528 | 235 | 147 | 111 | 68 | 74 | | |
| 19 | 680 | 540 | 7,080 | 150 | 1,300 | 1,380 | 1,000 | 506 | 122 | 108 | 70 | 137 | | |
| 20 | 885 | 480 | 2,650 | 150 | 1,470 | 1,000 | 730 | 1,480 | 103 | 82 | 65 | 280 | | |
| 21 | 740 | 432 | 1,570 | 160 | 1,290 | 848 | 500 | 1,390 | 97 | 70 | 63 | 140 | | |
| 22 | 510 | 360 | 1,160 | 180 | 1,000 | 705 | 460 | 1,230 | 87 | 732 | 58 | 134 | | |
| 23 | 1,080 | 335 | 922 | 300 | 1,160 | 638 | 405 | 1,150 | 92 | 563 | 23 | 280 | | |
| 24 | 1,120 | 310 | 605 | 600 | 1,080 | 960 | 337 | 1,750 | 90 | 259 | 17 | 166 | | |
| 25 | 705 | 297 | 810 | 2,370 | 810 | 740 | 314 | 1,850 | 117 | 190 | 12 | 111 | | |
| 26 | 540 | 315 | 810 | 2,880 | 705 | 670 | 293 | 1,310 | 1,890 | 97 | 27 | 72 | | |
| 27 | 510 | 540 | 605 | 1,300 | 670 | 805 | 263 | 860 | 2,690 | 84 | 31 | 61 | | |
| 28 | 775 | 705 | 705 | 885 | 510 | 480 | 239 | 582 | 1,570 | 82 | 37 | 48 | | |
| 29 | 670 | 848 | 740 | 650 | | 432 | 288 | 470 | 860 | 251 | 43 | 43 | | |
| 30 | 480 | 740 | 572 | 550 | | 638 | 328 | 373 | 555 | 293 | 51 | 39 | | |
| 31 | 414 | | 572 | 1,290 | | 1,470 | | 288 | | 239 | 34 | | | |
| Month | | | | | Maximum | | Minimum | | Mean | | Per square mile | | Run-off in inches | |
| October | | | | | 1,120 | | 51 | | 350 | | 0.862 | | 0.99 | |
| November | | | | | 848 | | 199 | | 428 | | 1.05 | | 1.17 | |
| December | | | | | 8,660 | | 150 | | 1,083 | | 2.67 | | 3.08 | |
| January | | | | | 2,880 | | 150 | | 631 | | 1.55 | | 1.79 | |
| February | | | | | 2,410 | | 474 | | 1,085 | | 2.67 | | 2.78 | |
| March | | | | | 4,500 | | 432 | | 1,353 | | 3.33 | | 3.84 | |
| April | | | | | 7,100 | | 239 | | 1,258 | | 3.10 | | 3.46 | |
| May | | | | | 1,850 | | 153 | | 552 | | 1.36 | | 1.57 | |
| June | | | | | 2,690 | | 87 | | 402 | | .990 | | 1.10 | |
| July | | | | | 1,000 | | 70 | | 246 | | .606 | | .70 | |
| August | | | | | 1,720 | | 12 | | 193 | | .475 | | .55 | |
| September | | | | | 280 | | 20 | | 89.8 | | .221 | | .25 | |
| The year | | | | | 8,660 | | 12 | | 637 | | 1.57 | | 21.28 | |

* Discharge determined by contracted-opening method.
*** Discharge determined by slope-area method.

Delaware River Basin

| Station | Drainage area | Run-off in second-feet per square mile | | | | | | | | | | | | Run-off | Precipitation | Per-cent | |
|---------------------------------------|---------------|----------------------------------------|------|------|------|------|------|------|------|------|------|------|-------|---------|---------------|----------|------|
| | | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | | | | Year |
| | Square miles | | | | | | | | | | | | | | | | |
| Delaware River Basin | 3,076 | | | | | | | | | | | | | | | | 58.4 |
| Delaware River at Fort Jervis, N. Y. | 4,542 | 1.60 | 2.04 | 1.93 | 2.07 | 2.58 | 2.27 | 2.71 | 1.11 | .461 | 1.59 | .081 | 3.01 | 2.10 | 28.53 | 48.84 | 55.7 |
| Delaware River at Belvidere, N. J. | 6,344 | 1.70 | 2.03 | 1.88 | 2.17 | 2.47 | 2.27 | 2.76 | 1.81 | 1.90 | 2.21 | 1.28 | 2.16 | 2.23 | 30.23 | 51.05 | 53.1 |
| Delaware River at Ringelsville, N. J. | 6,796 | 1.61 | 2.03 | 1.85 | 2.15 | 2.54 | 2.25 | 2.73 | 1.91 | 2.11 | 2.78 | 1.80 | 2.87 | 2.27 | 30.84 | 51.76 | 54.9 |
| Lackawanna River at West Hawley | 206 | .971 | 1.12 | 1.52 | 1.54 | 2.78 | 2.09 | 2.44 | 1.08 | .568 | 1.30 | .874 | 2.73 | 2.07 | 28.05 | 51.93 | 54.0 |
| Lackawanna River at Hawley | 290 | 1.67 | 2.24 | 1.60 | 1.93 | 2.22 | 1.76 | 2.71 | 1.11 | .461 | 1.59 | .081 | 2.80 | 1.57 | 21.30 | 44.75 | 47.6 |
| Wallenpaupack Creek at Wilkesville | 228 | 1.92 | 2.92 | 2.51 | 2.64 | 2.53 | 2.09 | 2.76 | 1.81 | 1.90 | 2.21 | 1.28 | 2.16 | 2.23 | 30.23 | 48.23 | 42.6 |
| Bushkill Creek at Shoemakers | 117 | 2.05 | 2.58 | 1.96 | 2.64 | 2.50 | 2.39 | 2.31 | 1.33 | 2.11 | 2.78 | 1.80 | 2.87 | 2.27 | 30.84 | 55.66 | 53.4 |
| McKitchels Creek at Stroudsburg | 64.4 | 2.60 | 2.43 | 1.91 | 2.63 | 2.69 | 2.22 | 2.73 | 1.91 | 1.73 | 2.63 | 1.26 | 1.78 | 2.20 | 29.95 | 50.31 | 59.5 |
| Lehigh River at Tamary | 322 | 2.37 | 2.02 | 1.74 | 2.65 | 2.52 | 2.28 | 2.26 | 1.45 | 1.86 | 2.91 | 1.53 | 1.98 | 2.13 | 28.90 | 53.49 | 54.0 |
| Lehigh River at Bethlehem | 1,280 | .416 | 1.37 | 1.00 | 1.86 | 1.98 | 1.66 | 1.04 | .450 | 1.10 | 2.96 | .678 | 3.33 | 1.45 | 19.67 | 50.23 | 59.2 |
| Tahton Creek near Pipersville | 97.4 | .384 | 2.29 | .724 | 1.47 | 1.81 | 1.61 | .710 | .406 | 1.38 | 5.53 | .889 | 3.01 | 1.68 | 22.77 | 53.03 | 42.9 |
| Neshaminy Creek at Langhorne | 210 | 1.147 | 1.69 | 1.54 | 2.05 | 1.98 | 2.03 | 1.57 | 1.04 | 1.35 | 2.58 | 1.29 | 1.27 | 1.68 | 22.62 | 48.52 | 47.0 |
| Schuylkill River at Pottstown | 1,147 | 1.99 | 1.36 | 1.09 | 1.76 | 1.86 | 1.88 | 1.26 | .748 | 1.34 | 2.84 | 1.31 | 1.70 | 1.54 | 20.95 | 47.95 | 43.7 |
| Schuylkill River at Philadelphia | 1,693 | 1.35 | 1.36 | 1.09 | 1.76 | 1.86 | 1.88 | 1.26 | .748 | 1.34 | 2.84 | 1.31 | 1.70 | 1.54 | 20.95 | 47.95 | 43.7 |
| Little Schuylkill River at Tamaqua | 42.9 | 3.10 | 2.47 | 1.93 | 3.01 | 2.91 | 2.82 | 2.13 | 1.54 | 2.63 | 2.61 | 1.51 | 1.38 | 2.33 | 31.75 | 57.99 | 54.8 |
| Parkman Creek at Greeters Ford | 279 | .473 | .803 | .503 | 1.49 | 1.76 | 1.59 | .910 | .405 | .988 | 2.90 | .835 | 2.13 | 1.25 | 16.97 | 44.57 | 38.0 |
| Ridley Creek at Moylan | 31.9 | .755 | 1.08 | .737 | 1.08 | 1.20 | 1.20 | 1.00 | .768 | 2.71 | 2.86 | 1.83 | 2.03 | 1.44 | 19.49 | 50.50 | 38.6 |
| Chester Creek near Chester | 61.1 | .869 | 1.12 | .740 | 1.09 | 1.24 | 1.15 | .931 | .700 | 2.00 | 2.47 | 2.34 | 1.85 | 1.37 | 18.67 | 49.30 | 37.4 |
| Brandywine Creek at Chadds Ford | 287 | 1.10 | 1.31 | .969 | 1.22 | 1.37 | 1.60 | 1.19 | .944 | 2.66 | 2.50 | 1.44 | 1.61 | 1.49 | 20.26 | 55.99 | 37.5 |

Summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and percent run-off to precipitation, for the year ending Sept. 30, 1938

Summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and percent run-off to precipitation, for the year ending Sept. 30, 1938
Potomac River Basin

| | Drainage area Square miles | Run-off in second-feet per square mile | | | | | | | | | | | | Run-off Depth in inches | Precipitation Depth in inches | Per- cent |
|-------------------------------------|-------------------------------|----------------------------------------|------|-------|-------|-------|------|-------|------|-------|-------|-------|-------|----------------------------|----------------------------------|--------------|
| | | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Year | | |
| Potomac River Basin | 30.2 | 1.64 | .960 | .618 | 1.13 | 1.05 | 1.62 | .980 | .894 | .470 | .560 | .233 | .156 | .894 | 12.12 | 37.8 |
| Swifts Creek in Bedford Valley..... | 159 | 2.43 | 1.11 | 0.696 | 0.741 | 0.759 | 1.50 | 0.597 | 1.01 | 0.356 | 0.690 | 0.270 | 0.209 | 0.867 | 11.78 | 33.9 |
| Licking Creek near Sylvan..... | | | | | | | | | | | | | | | | |

Summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and percent run-off to precipitation, for the year ending Sept. 30, 1938
Ohio River Basin

| | Drainage area Square miles | Run-off in second-feet per square mile | | | | | | | | | | | | Run-off Depth in inches | Precipitation Depth in inches | Per- cent |
|-----------------------------------------------|-------------------------------|----------------------------------------|------|------|------|------|------|------|-------|------|-------|-------|-------|----------------------------|----------------------------------|--------------|
| | | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Year | | |
| Ohio River Basin | 541 | 1.21 | 1.66 | 2.12 | 1.26 | 4.04 | 3.19 | 3.37 | 0.826 | 1.03 | 0.636 | 0.131 | 0.492 | 1.64 | 22.32 | 61.2 |
| Allegheny River at Larches..... | 5,982 | .879 | 1.55 | 2.24 | 1.85 | 3.28 | 3.32 | 3.05 | .914 | .685 | .644 | .629 | 1.06 | 1.83 | 24.86 | 56.4 |
| Allegheny River at Franklin..... | 7,671 | .843 | 1.50 | 2.36 | 1.78 | 4.37 | 3.43 | 3.09 | .953 | .749 | .690 | .574 | .863 | 1.79 | 24.34 | 54.9 |
| Ohio River at Swickley..... | 19,500 | 1.36 | 1.27 | 2.39 | 1.68 | 3.62 | 3.07 | 2.61 | 1.68 | 1.11 | .782 | .536 | .471 | 1.70 | 23.10 | 50.8 |
| Brokenstraw Creek at Youngville..... | 304 | .931 | 1.66 | 2.15 | 2.72 | 6.03 | 3.25 | 2.98 | 1.03 | .526 | .595 | .622 | 1.52 | 1.97 | 26.78 | 55.8 |
| Tionesta Creek at Lynch..... | 233 | | | | | | | | | | | | | | | |
| Tionesta Creek at Nebraska..... | 481 | 1.28 | 1.64 | 2.56 | 1.78 | 4.78 | 3.29 | 3.33 | 1.00 | 1.03 | .773 | .562 | .370 | 1.79 | 24.35 | 50.2 |
| Oil Creek at Houseville..... | 300 | .840 | 1.35 | 2.30 | 1.93 | 5.22 | 3.19 | 3.10 | .880 | .453 | .547 | .703 | 1.05 | 1.77 | 24.09 | 52.7 |
| French Creek at Carters Corners..... | 208 | .952 | 1.99 | 2.36 | 2.64 | 7.35 | 3.72 | 2.95 | 1.00 | .500 | .275 | .716 | 3.39 | 2.28 | 30.95 | 66.7 |
| French Creek at Saegerstown..... | 629 | 1.01 | 1.81 | 2.35 | 2.38 | 6.65 | 3.56 | 2.93 | .698 | .415 | .226 | .870 | 2.04 | 2.06 | 27.96 | 64.1 |
| French Creek at Utica..... | 1,028 | .874 | 1.49 | 2.32 | 2.07 | 5.73 | 3.17 | 2.62 | .767 | .364 | .210 | .660 | 1.45 | 1.76 | 24.20 | 41.82 |
| Guasago Creek near Headville..... | 90.2 | | 1.46 | 2.78 | 2.03 | 5.53 | 2.68 | 2.25 | .458 | .153 | .043 | .799 | 2.23 | 1.75 | 23.74 | 59.3 |
| Sugar Creek at Sugar Creek..... | 156 | .705 | 1.11 | 2.72 | 1.95 | 4.75 | 3.49 | 3.50 | .795 | .417 | .586 | .608 | .645 | 1.75 | 23.80 | 42.22 |
| Clarion River near Piney..... | 951 | .973 | 1.58 | 2.75 | 1.85 | 4.64 | 3.49 | 3.49 | 1.21 | 1.22 | 1.01 | .401 | .294 | 1.89 | 25.61 | 54.7 |
| Red Bank Creek at St. Charles..... | 528 | .936 | 1.21 | 3.40 | 1.87 | 3.99 | 3.42 | 3.15 | 1.56 | 1.28 | .902 | .345 | 1.42 | 1.84 | 24.95 | 52.5 |
| Mahoning Creek near Dayton..... | 321 | 1.07 | .925 | 3.21 | 2.11 | 3.61 | 3.03 | 3.36 | 1.60 | .928 | .960 | .321 | .154 | 1.83 | 24.85 | 59.5 |
| Crooked Creek at Idaho..... | 191 | | | | | | | | | | | | | | | |
| Crooked Creek near Ford City..... | 280 | 1.05 | .804 | 3.09 | 1.53 | 3.00 | 2.75 | 2.49 | 1.12 | .782 | .754 | .202 | .086 | 1.46 | 19.86 | 46.73 |
| Conemaugh River at Seward..... | 715 | | | | | | | | | | | | | | | |
| Kiskiminetas River at Vandergrift..... | 1,825 | 1.40 | 1.08 | 2.76 | 1.99 | 2.75 | 3.19 | 2.44 | 1.72 | .888 | .483 | .403 | .212 | 1.60 | 21.77 | 44.92 |
| Blacklick Creek at Blacklick..... | 390 | 1.75 | 1.15 | 3.84 | 2.27 | 3.48 | 3.31 | 2.44 | 1.32 | .965 | .508 | .165 | .185 | 1.78 | 24.12 | 53.2 |
| Loyalhanna Creek at New Alexandria..... | 265 | 1.66 | .853 | 2.59 | 1.95 | 2.68 | 3.38 | 2.40 | 1.67 | .713 | .464 | .709 | .208 | 1.60 | 21.77 | 48.40 |
| Monongahela River at Charlevoix..... | 5,213 | 2.62 | 1.25 | 2.27 | 1.56 | 2.90 | 2.90 | 2.10 | 2.78 | 1.63 | .768 | .528 | .256 | 1.79 | 24.34 | 49.8 |
| South Fork of Tenmile Creek at Jefferson..... | 180 | .906 | .469 | 1.72 | 1.66 | 2.77 | 2.47 | 1.42 | 1.08 | .700 | .081 | .0087 | .020 | 1.10 | 14.90 | 36.66 |
| Youghiogheny River at Connellsville..... | 1,326 | 2.38 | 1.24 | 2.41 | 1.80 | 2.93 | 3.46 | 2.21 | 2.64 | 1.13 | 1.11 | .335 | .198 | 1.82 | 24.68 | 44.63 |
| Casselman River at Marlinton..... | 382 | 2.67 | 1.26 | 2.09 | 1.47 | 2.31 | 2.96 | 1.63 | 1.97 | .712 | .728 | .184 | .112 | 1.51 | 20.46 | 42.92 |
| Big Piney Run near Salisbury..... | 24.5 | | 1.18 | 1.73 | 1.18 | 1.89 | 2.35 | 1.47 | 1.56 | .332 | 1.10 | .182 | .096 | 1.42 | 19.29 | 41.54 |
| Laurel Hill Creek at Ursina..... | 121 | 2.79 | 1.33 | 2.87 | 2.40 | 3.56 | 3.96 | 2.60 | 2.87 | 1.40 | 1.45 | .318 | .205 | 2.13 | 28.91 | 43.84 |
| Turtle Creek at Trufford..... | 54.8 | .619 | .577 | 2.88 | 1.52 | 2.54 | 2.61 | 2.32 | 1.26 | .730 | .319 | .172 | .082 | 1.50 | 17.56 | 40.39 |
| Beaver River at Wampum..... | 2,235 | .618 | .613 | 1.55 | 1.10 | 2.33 | 3.00 | 2.28 | 1.01 | .541 | .323 | .536 | .311 | 1.18 | 15.98 | 41.51 |
| Shenango River at Pymatuning Dam..... | 167 | 1.03 | .964 | 2.13 | 1.31 | 4.26 | 2.24 | 2.04 | .209 | .061 | .042 | .246 | .499 | 1.18 | 16.08 | 43.78 |
| Shenango River at Sharpsville..... | 588 | | | | | | | | | | | | | | | |
| Shenango River at Sharon..... | 608 | .918 | .988 | 2.33 | 1.43 | 3.63 | 2.88 | 2.43 | .536 | .202 | .118 | .031 | .310 | 1.30 | 17.69 | 41.64 |
| Sugar Run at Pymatuning Dam..... | 9.34 | | .928 | 2.55 | 1.23 | 3.01 | 2.91 | 1.93 | .332 | .078 | .047 | .047 | .321 | 1.13 | 15.45 | 39.24 |
| Little Shenango River at Greenville..... | 104 | .920 | 1.16 | 2.53 | 1.53 | 3.66 | 3.21 | 2.53 | .768 | .346 | .289 | .189 | .205 | 1.44 | 19.59 | 42.41 |
| Pymatuning Creek near Greengrove..... | 169 | .675 | .787 | 2.54 | 1.02 | 3.23 | 2.49 | 2.30 | .338 | .146 | .099 | .108 | .267 | 1.12 | 13.27 | 40.17 |
| Connoquessing Creek near Hazen..... | 356 | .775 | .747 | 3.05 | 1.55 | 2.73 | 2.86 | 3.03 | 1.30 | .889 | .371 | .220 | .121 | 1.57 | 20.56 | 41.82 |
| Slippery Rock Creek at Wurttemberg..... | 406 | .682 | 1.05 | 2.67 | 1.55 | 2.67 | 3.53 | 3.10 | 2.56 | .990 | .608 | .475 | .221 | 1.57 | 21.28 | 42.65 |

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